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ABSTRACT

A project was designed to identify factors that predispose young women to choose and remain in sex-atypical jobs in the military and in civilian firms. Data were from the National Longitudinal Survey of Youth Labor Market Behavior, a longitudinal study with annual interviews from 1979 through 1983 of youth between the ages of 14 and 21 in the first year. Two central hypotheses were that a woman who expects to allocate more time to the home is more likely to expect intermittent labor force participation and therefore selects a typically female occupation and that marital and child-bearing expectations will affect gender typicality of a woman's, but not of a man's, occupational choice. These hypotheses were confirmed. Higher ability women were more likely to plan labor force participation. Coming from a female-headed household increased daughters' labor force commitment and the chances they would choose traditionally male occupations. Little support was found for the hypotheses that being in a job traditional for one's sex affects turnover. Results showed general support for the hypotheses that the greater the mismatch between job characteristics and the individual's characteristics, the higher the probability of turnover and that the less attractive the job, the higher the probability of turnover. A nine-page bibliography concludes the document. (YLB)

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Women in Nontraditional Occupations

Choice and Turnover

Linda J. Waite, Sue E. Berryman

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Women in Nontraditional Occupations

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Linda J. Waite, Sue E. Berryman

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Rand
1700 MAIN STREET
P.O. BOX 2138
SANTA MONICA, CA 90406-2138

PREFACE

This research was conducted within The Rand Corporation's Defense Manpower Research Center under the support of Grant No. 820-0408 from the Urban Poverty Program, The Ford Foundation. The investigation studies women in occupations nontraditional for their sex in the civilian and military work forces, analyzing both their choices of nontraditional jobs and their retention of them. In addition, it compares women's occupational choices and job turnover with those of men. The findings should interest analysts concerned with attrition from the military, turnover among young workers, and the processes determining occupational selection. Policymakers designing job programs for women should also find these results of interest.

SUMMARY

This report gives results for a project designed to identify factors that predispose young women to choose and remain in sex-atypical jobs in the military and in civilian firms. It has its intellectual roots in the extensive sociological and economic work on occupational, employer, and industry mobility. It also pertains to policies that affect the gender segregation of occupations.

The report specifies models to test a series of hypotheses about characteristics of individuals and their families that influence their occupational preferences and their turnover in the military and in civilian jobs. Data to test these hypotheses come from the *National Longitudinal Survey of Youth Labor Market Behavior* (NLS), a longitudinal study with annual interviews from 1979 through 1983 of a large, national sample of youth 14 to 21 in the first year. This survey contains a separate sample of those on active duty in the military, allowing us to compare job turnover in both the civilian and military labor force. Although we are interested primarily in the job decisions of women, we also examine the choice and retention processes for males to provide a point of reference for our analyses of these processes for females.

Occupational Choice

We predicted that how high school girls expect to allocate their time in adulthood between the labor force and work in the home is key to the traditionality of their occupational preferences at age 35. We expected most other factors, although they might have an independent, direct effect on occupational choice, to affect the occupational decision indirectly through their effects on the work/home decision. We confirmed these hypotheses for different forms of the dependent variable and with ordinary least squares regression and logit models. As girls increase their planned commitments to the labor force relative to the home, the traditionality of their occupational choices decreases and the chances of choosing traditionally male occupations increase. Marital, parenting, and sex role expectations affect the gender typicality of the occupational choices of high school girls, but not of boys.

Other studies suggest an interaction between the socio-economic status of girls' families and the traditionality of occupational choices for women more committed to the labor force. Specifically, these studies suggest that, for girls committed to the labor force, working class girls are more apt to select traditionally female occupations—albeit

higher status—than middle and upper middle class girls. Our results do not confirm this hypothesis, perhaps because the interaction observed in earlier studies does not survive the multiple controls of regression models.

We tested several hypotheses about factors which affect girls' commitment to the labor force. Since ability is rewarded in labor markets, but not necessarily in marriage markets, we predicted that higher ability women are more likely than lower ability women to plan continuous labor force participation and therefore to select a traditionally male occupation. The analyses strongly confirm this hypothesis: each point increase in the scale of verbal and quantitative skills reduces the traditionality of the selected occupation by six percentage points.

The literature on the intergenerational transmission of behaviors and attitudes indicates the importance of the "lessons of the mother's life" for daughters' home, labor force, and occupational choices. We expected that a daughter's negative appraisal of her mother's choices would produce choices different from those of her mother's. Similarly, we expected that a positive appraisal would produce a repeat of her mother's choices. Since we did not have measures of daughters' appraisals of their mothers' choices, we could not test these hypotheses directly. However, we could test hypotheses that these ideas imply.

Assuming that blue collar and service occupations are more likely to represent unattractive work situations, we hypothesized that daughters of mothers employed in these occupations are less likely to plan to repeat their mothers' labor force and occupational choices than daughters of mothers in white collar occupations.

Although the hypothesis assumes that the mother's occupation will affect the traditionality of the daughter's occupational choice, it does not predict direction. The choice may be more traditional, by virtue of a reduced commitment to the labor force, or less traditional by virtue of an increased commitment to occupations more rewarding than traditionally female occupations.

Although we find that girls whose mothers work in blue collar occupations have an 8 percent greater chance of selecting a traditionally male occupation, we find no effect for service occupations and no effect for service or blue collar occupations on the continuous form of the dependent variable. We do not consider the hypothesis confirmed—in part because, of the three occupational categories, the blue collar occupations, although fairly low wage for women, tend to be less traditionally female than the white collar or service occupations. Daughters of women who work in blue collar occupations may be somewhat more likely to select traditionally male occupations as a negative response to

their mothers' low wages *or* as a repeat of their mothers' less traditionally female occupations.

A second factor is family structure. Living in an intact versus female-headed household should affect what lessons daughters learn from their mothers' lives. We predicted that daughters in female-headed households will see their mothers either as negative models or as male models. If they see them as negative models, we suspect that the household structure will predispose daughters to reject, not labor force commitment in favor of marriage and work in the home, but their mothers' unrewarding occupations. In either the negative or male model cases, coming from a female-headed household should increase daughters' labor force commitment and the chances that they will choose traditionally male occupations.

Estimates for both the linear form of the dependent variable and for the categorical form confirm this hypothesis. All else equal, being in a female-headed household at age 14 decreases the traditionality of girls' occupational choices by six percentage points and increases the chances of choosing a traditionally male occupation by 8 percent.

These analyses suggest that changing young women's occupational choices requires changing their expected time allocations to the labor force and the home. Policies that address the occupational choice alone—i.e., without addressing labor force and home choices—should have limited effects.

The effect of female-headed households on occupational choice is important in two ways. First, it indicates the intergenerational transmission of behaviors and attitudes and highlights the importance of understanding how mothers' home, labor force, and occupational choices and attitudes affect those of their daughters. Second, the major changes in family structure in this country may eventually generate a change of similar magnitude in daughters' home, labor force, and occupational choices.

Job Turnover

First, we hypothesize that as the nontraditionality of the occupation for persons of the same sex increases, the probability of turnover increases. Evidence suggests that women and men have less information about jobs nontraditional for their sex than about others, and that women in predominantly male occupations are more apt to function in nonsupportive, if not actually hostile, work groups. Both these could increase turnover. Our results show little evidence of such an effect. Young women in jobs in the civilian sector do not show higher rates of turnover for either traditionally female or traditionally male jobs as

measured in several ways. In the military the coefficients show the signs hypothesized—a negative effect on turnover of incumbency in a traditionally female job and a positive effect of being in a traditionally male job. However, in both cases the effect is not statistically significant and is quite small. Our results show no differences in turnover among women in the four branches of the Services.

We also explored a linear measure of proportion female in the occupation. We found no effect in the civilian sector but a significant negative effect of proportion female on the probability of turnover in the military. This result implies that moving a woman from a military occupation with 50 percent female in the civilian counterpart occupation to one with 60 percent women would lower her probability of leaving the Service over a one-year period by three percentage points. Larger or smaller changes in the traditionality of the occupation would have proportional effects on the chances of turnover. This significant effect of the linear measure, combined with our finding of no effect of being in either predominantly male or predominantly female occupations, suggests that changes toward a higher proportion female within *mixed occupations* reduces turnover for women.

Males who work in civilian occupations with very high proportions female have *lower* turnover rates than those in mixed or sex-typical occupations. Traditionally female jobs in this category include, for example, secretaries, nurses, elementary school teachers, bank tellers, bookkeepers, and receptionists. We speculate that the relatively few men in these stereotypically female occupations face substantially improved promotion and job opportunities because of their uniqueness and higher status than their coworkers precisely because of their sex, and because of the assumption that males in typically female jobs have more options elsewhere than do women incumbents in these jobs. Men in the military show no effects of proportion female in the civilian counterpart occupations on their chances of leaving the military within the year.

We hypothesize that the greater the mismatch between characteristics of the job and characteristics of the individual, the higher the probability of turnover. Those for whom the job doesn't "fit" or who do not fit the job will leave at higher rates than others, we expect. Our results show general support for this hypothesis; we find that age and education both decrease the chances of turnover in at least one of the two sectors we studied. We find no effect of knowledge of the world of work, or of work group composition, measured only for women in the civilian sector, on likelihood of turnover.

Our third hypothesis states that the less attractive the job, in terms of pay, hours, coworkers, and the intrinsic satisfactions of the work,

the higher the probability of turnover. We find general support for this hypothesis; those in jobs with more benefits, higher long-run wage prospects, union representation, lower perceived physical hazards, shorter travel time to work, and higher perceived extrinsic rewards leave their employers at lower rates than those in jobs without these features. We find that for civilian workers, chances of turnover decrease dramatically with increasing tenure with that employer. Job tenure reflects satisfaction with the job to that point and also the firm-specific knowledge and skills the worker has acquired. In the military, turnover decreases significantly among those with formal training for their job, another measure of job-specific skills. These processes seem to operate in virtually identical ways for employed males and females.

We expect those with appealing alternatives to market work in the form of additional school or—for women—full-time work in the home, will show higher probability of short-run turnover. Our results show significant increases in turnover for those who aspire to fairly high levels of educational attainment for those in civilian jobs but not for those in the military, and for those who married or had a birth during the year. Not all these effects appear for workers of both sexes in both the military and civilian sectors.

We hypothesize that the person's resources—informational, psychological, and financial—increase turnover by increasing the chances that she or he knows of alternatives, by allowing her or him to act on preferences for a different job, or by making it easier for the person to absorb the transaction costs of a move from a current to subsequent job or—for women—providing financial support for work in the home. Our analysis shows none of these effects, but does show that women dissatisfied with their jobs show increased turnover rates the higher their family income net of their own wages. Perhaps personal resources increase the efficiency with which people search for jobs, decreasing their job turnover later.

Our analyses have three particularly important policy implications. First, the military Services, which historically confer important economic and political benefits on the less enfranchised groups that serve in them, have expressed concern about high turnover rates of women enlistees. Our analysis finds no differences in mean turnover rates for male and female enlisted military personnel. When we compare turnover for women in the military and in civilian jobs, we find that women enlistees have much lower exit rates from the armed forces than their counterparts in civilian jobs. In a year's time, more than one out of every two women exited from civilian jobs. For the same time period, one out of every five members of the military exited, most

of them at the conclusion of their first term contract. (Those whose contracts ended between the 1979 and 1980 interviews were 76 percent more likely to exit than those whose contracts ended after the 1980 interview.) Clearly, the military's selection, training, service contract, and other human resource policies are relatively successful in controlling turnover of women in this age group.

Second, we find no effect of job traditionality on turnover for women in civilian jobs—for a variety of definitions of the traditionality variable and for several alternative specifications of the civilian turnover model. This finding has major implications for the gender desegregation of occupations in the civilian sector, especially in industries whose occupational structures have high proportions of traditionally male occupations. For women to penetrate such industries in any significant way, they have to be pervasively employed in traditionally male occupations. Our results do not support the exclusion of women from traditionally male occupations on grounds of turnover rates greater than those observed for women in traditionally female occupations. We must note, however, that the characteristics and experiences of women who enter jobs currently held predominantly by men may change in the future if more women enter these occupations.

Third, for women in the military we find no effect of being in a traditionally female occupation or a traditionally male occupation on turnover, but do find a weakly significant effect of a linear measure of percent female in the civilian counterpart occupation. Our analysis of various alternative measures of proportion female in the occupation suggests that the negative impact of occupational typicality on women's job turnover, to the extent that it exists, occurs mostly within occupations mixed by gender in the national labor force—those with more than 25 percent and less than 90 percent females.

CONTENTS

PREFACE iii

SUMMARY v

TABLES xiii

Section

I. INTRODUCTION 1

II. NONTRADITIONAL OCCUPATIONAL CHOICES 4
- Theoretical Perspective 4
- Hypotheses 7
- Sample, Variable Definitions, and Structure of the Analysis 13
- Results of Occupational Choice Analysis 22
- Summary and Conclusions 32

III. TURNOVER FROM NONTRADITIONAL OCCUPATIONS IN THE MILITARY AND CIVILIAN SECTORS .. 35
- Female Turnover 35
- Male Turnover 61
- Summary and Conclusions 73

BIBLIOGRAPHY 77

TABLES

1. Names and Definitions of Variables for Analysis of Occupational Choice 15
2. Means and Standard Deviations of Variables for Analysis of Occupational Choice 19
3. Regression Coefficients from Models of Traditionality of Occupational Choice 23
4. Logit Coefficients from Model of Traditionally Male Occupational Choice 24
5. Names and Definitions of Variables for Analysis of Job Turnover of Young Women 46
6. Means and Standard Deviations for Variables, Civilian and Military Samples, for Analysis of Job Turnover of Young Women 49
7. Logit Coefficients from Models of Job Turnover of Young Women 54
8. Means and Standard Deviations for Variables, Civilian and Military Samples, for Analysis of Job Turnover of Young Men 64
9. Logit Coefficients from Models of Job Turnover of Young Men 68

I. INTRODUCTION

This report presents results for a project designed to identify factors that predispose young women to choose and remain in sex atypical jobs in the military and in civilian firms. The study has its intellectual roots in the extensive sociological and economics work on occupational, employer, and industry mobility. It also pertains to policies that affect the gender segregation of occupations.[1]

Gender differences in occupationally based income, power, and prestige represent the impetus behind political efforts to desegregate occupations. Differences in men's and women's occupational distributions account primarily for the substantial wage differences that remain after demographic and human capital differences between men and women have been controlled (e.g., Lloyd and Niemi, 1979). Women also work in fewer occupations and are more concentrated in a subset of occupations than men (e.g., Stevenson, 1975), thus limiting their labor force entry opportunities, their access to career ladders that carry greater income and prestige rewards, and their ability to adjust to structural or cyclical unemployment by changing occupations.

We conceive of the traditionality of job choice—or the traditionality of occupationally relevant educational choices—as a dynamic process that begins early in a woman's life and continues throughout her productive years. Within this perspective, decisions to change, stay in, or leave occupations become theoretically integrated into the choice process as re-choices. This conception of occupational preferences, entries, and exits as a dynamic choice process has several theoretical and ultimately methodological implications.

First, this perspective raises questions about how transition rates among differentially typical occupations vary as a function of variations in prior history and state in the life cycle.

Second, it implies specifications of dependent and independent variables that are sensitive to state in the life cycle. For example, social-psychological, adolescent development processes may increase teenage women's defections from traditionally male to traditionally female occupational preferences and depress the rates at which they change from traditionally female to traditionally male preferences.

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[1]The substantial gender segregation of the American labor force is well known. For example, to eliminate the overrepresentation of women in some occupations and their underrepresentation in others, over three-fifths of the female (or male) labor force would have to be reallocated among the occupations (Blau and Hendricks, 1979).

Third, our conception implies that a given outcome—whether entering, staying in, or exiting from an occupation or from occupationally relevant education—reflects the relative attractiveness and availability of the individual's alternatives. Thus, it implies choice models that include a complete set of major alternatives. It also implies models with explanatory variables that measure the individual's access to, as well as preferences for, different alternatives.

A complete analysis of women's occupational choices that included re-choices would include the development of occupational aspirations or expectations among girls, entry into the labor force and the first job, early job turnover decisions, and family long-run or "career" occupational choices. This report addresses only parts of this total process. We start in the same place as the complete analysis would start by examining young women's early and hypothetical occupational choices. The analysis integrates occupational decisionmaking within a larger context of choices about marriage and family. The availability of a large, recent survey of youth, which included questions on occupation expected or preferred as an adult, supported this section of the analysis.

The research reported here does not examine first job choice, primarily because this process stretches out over a number of years for any cohort of young people. Some leave high school before graduation and begin full-time work, whereas others continue in school for 10 or even 15 years of postsecondary training before beginning their careers. Few current national data sets allow researchers to examine this entire process, and the data set used here is no exception.

For reasons discussed later, we want to include military service in the occupations chosen, entered, or left. One longitudinal data base lets us examine civilian and military jobs for women, but the military subsample consists of those already enlisted. Although some women entered the military in later years of the survey, the number was too small to let us analyze job choice for military and civilian jobs.

This report does provide a detailed examination of the determinants of job turnover for young women, one of the key parts in the process of job choice and re-choice. We examine the factors that affect the chances that a young woman employed at the beginning of the year leaves her employer by the end of the year. It does not analyze the destination of those who leave, an important aspect for later research. The availability of a data set with a sizable sample of women in the military allowed us to compare job turnover for women with civilian and military employers, and to analyze the early consequences of increased access of women in the military to jobs typically held by males.

Finally, this report does not consider the long-run occupational choices of women, for two reasons. First, the frequency of job changes and the extent to which they result in occupational changes decline with age. Thus, women make more—and more important—choices and re-choices while young than while older. Second, examination of careers requires longitudinal data over a fairly long period of adulthood, and such data are not available to us here.

As the title of this report suggests, this analysis focuses on the occupational choices of women. We include comparable analyses of men only to provide a context for interpreting our results for women. Thus, we discuss our results for men only in relation to findings for women. Including parallel analyses of occupational choice and job turnover for males allows us to see which characteristics of the individual, the work situation, or the job affect choices similarly for both sexes and which affect women differently than men. This permits us to answer a number of important questions about the value of women workers relative to men.

II. NONTRADITIONAL OCCUPATIONAL CHOICES

THEORETICAL PERSPECTIVE

Economists routinely model the economic *consequences* of occupational choices, such as earnings distributions or human capital investments (e.g., Mincer and Polachek, 1974; Polachek, 1975 and 1979), but only rarely do they try to model the occupational decision itself. Sociologists are more apt to model the determinants of the socioeconomic status of occupational choices (as in Sewell and Hauser, 1975, or Rosen and Aneshensel, 1978), not the determinants of the gender typicality of these choices.

Although a literature on the gender typicality of choice exists, much of it is descriptive, or, in Kuhn's description of scientific revolutions (1970), preparadigmatic. The descriptive literature identifies historical and developmental trends in occupational preferences (e.g., Lueptow, 1981; Herzog, 1982; Mason, Czajka, and Arber, 1976; Hewitt, 1975; Frye and Dietz, 1973; Maccoby and Jacklin, 1974; Gettys and Cann, 1981) and correlates of these preferences, such as sex role attitudes or attitudes toward the characteristics of jobs.

A few studies (e.g., Almquist and Angrist, 1970; Polachek, 1975 and 1979; Aneshensel and Rosen, 1980; and Blakemore and Low, 1984) begin to illuminate the conditions under which young women choose traditionally male occupations. However, others that purport to model occupational choice often "explain" choices by simply listing attributional differences between those who make different occupational choices. These studies lack theory about the structures or processes that generate these attributional and therefore occupational differences. Other studies assume that traditional choices, by definition, do not require explanation. However, cultural traditions retain their influence only if the factors that initially generated or maintain them remain unchanged. It is the persistence of these factors that ultimately accounts for the persistence of culturally traditional occupational decisions, and change in these factors that ultimately accounts for nontraditional occupational choices.

We agree with authors such as Mincer and Polachek (1974), Polachek (1975 and 1979), or Aneshensel and Rosen (1980) that a key to the typicality of a young woman's occupational choice is how she expects to allocate her time as an adult to the labor force, home

responsibilities, and leisure.[1] We expect most other factors, although they may have independent, direct effects on occupational choice, to affect the occupational decision indirectly through their effect on the work-home-leisure decision.

We predict that a young woman's academic abilities and educational expectations will have somewhat complicated relationships to her labor force and occupational decisions. We hypothesize that

- her *academic abilities* affect her planned labor force and home time allocations and the educational requirements of the occupations that she considers;
- her *educational expectations* and *investments* reflect her initial occupational choices, not determine them; and
- her educational investments during and after high school constrain her ability to *change* her initial occupational choices.

Although models often treat educational attainment as determining occupation, our concern with occupational choice leads us to agree with Polachek (1979), who argues that occupation affects what economists call the human capital accumulation process.

Certainly the recent literature on girls' participation in elective mathematics in high school supports this view (Wise, 1979; Armstrong, 1979; Lantz and Smith, 1981). Although mathematical achievement at grade 9 strongly predicts participation in high school elective mathematics, previous achievement does not explain subsequent gender differences in the decision to pursue elective mathematics courses: grade 9 boys and girls do not differ significantly in average mathematical achievement. However, the utility that mathematics has for the individual strongly affects participation in these courses. The more useful the individual expects mathematics to be, especially in achieving subsequent educational and career goals, the more high school mathematics he or she takes.

We assume that young men plan continuous labor force participation and quite limited time commitments to the home. Thus, if women anticipate continuous labor force participation throughout their adult lives and plan to minimize domestic responsibilities,[2] they should use

[1]As Roos (1983) observes, human capital theorists propose dual career theory to explain gender differences in occupational choices and wages. The theory assumes that actual or anticipated family responsibilities affect the jobs that women enter by limiting their educational and on-the-job training (OJT) investments, the number of hours they work, their labor force continuity, and the advancement opportunities they pursue.

[2]Women can plan to minimize domestic responsibilities in several ways—for example, by planning to delay marriage or children, by planning not to marry or not to have children, by planning a small family, by expecting a future spouse to contribute substantial

the same calculus in evaluating alternative occupations as their male counterparts and their occupational choices should approximate male choices.[3]

On the other hand, if young women assign priority to domestic responsibilities and plan limited or intermittent labor force participation, we would expect them to choose traditionally female occupations. Assigning priority to work in the home implies temporally or geographically interrupted labor force participation or curtailed (i.e., part-time) participation. Others have suggested, and we agree, that typically female occupations—although not exclusively female occupations—fit disrupted or limited labor force participation, and that therefore changes in the typicality of women's occupational choices are contingent on changes in their life-cycle labor force expectations.

The literature has exhaustively documented that most women work in a few occupations, and that the majority work in occupations which they dominate, i.e., in typically female occupations. In 1981 about 75 percent of the total female labor force worked in the following occupations: librarian; preschool and K-12 teacher; nurse; dietician; physical therapist; health technologist; clerk/secretary; salesclerk (primarily retail sales); assembler; dressmaker, sewer, and stitcher; laundry and dry-cleaning operative; cleaner; cook; waitress; health service worker (such as nurses' aide); child care worker; and hairdresser.

From the perspective of modeling the gender-typicality of occupational choice, these typically female occupations have three telling characteristics. First, by definition, gender-segregated occupations reduce the chances that men and women will directly compete with each other in the labor market. Thus, they reduce one potential source of stress in the sexual, marital, and parenting relationships between men and women that depend on co-operation and trust.

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time to the home, or by planning to purchase services that a housewife normally provides, such as laundry, food, child care, and cleaning services.

[3]Using data from the *National Longitudinal Study of the High School Class of 1972*, Blakemore and Low (1984) estimate choice of college major separately for males and females. They find that as much as 50 percent of the substantial gender differences in choice of college major is attributable to gender differences in the mean values of characteristics (e.g., mathematics scores, values such as community orientation), not to differences in their effects on the choice of a major. In general, as gender roles and expectations converge, theoretically we can expect most male and female behaviors to converge. We already see this increasing convergence in several behavioral domains—for example, in criminal behavior. Girls show crime rates increasingly similar to boys' rates; are committing increasingly violent crimes, i.e., crimes previously associated almost entirely with males; and show increasingly similar criminal histories, i.e., their criminal careers have cycles increasingly like those of males' careers.

Second, many typically female jobs represent labor force extensions of work performed in the home.[4] These jobs therefore let women transfer skills developed in the home to the labor force and minimize the discontinuities associated with migrating between home and the labor force.

Third, the occupations in which most women are employed do not require continuous labor force participation or employment with the same organization. Some are jobs that can be "picked up" because they require minimal formal training, work experience, or organizational tenure—jobs such as retail clerk, receptionist, child care aide, health care aide, or waitress. Other typically female jobs require formal training, such as nurse, dietician, teacher, or secretary. These jobs require skills that are relatively uniform across organizations, and typically their occupants qualify for them on the basis of their own training investments, not organizational tenure (work experience) or *employer* investments in their formal training. They let the individual trade employer-provided training and other benefits that accrue to labor force and organizational continuity for the ability to move in and out of organizations and in and out of the labor force.[5]

HYPOTHESES

Central Hypotheses

Our theoretical perspective implies two central hypotheses that we test.

Hypothesis 1. A woman who expects to allocate more time to the home is more likely to expect intermittent labor force participation and therefore to select a typically female occupation.

Hypothesis 2. Marital and child-bearing expectations will affect the gender typicality of a woman's, but not of a man's, occupational choice.

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[4]Examples of parallels between work in the home and in the labor force are the care and socialization of children (preschool teachers, child care workers), care of the sick (nurses, dieticians, physical therapists, and health service workers), food preparation and service (cooks and waitresses), preparation and maintenance of clothing (dressmakers, sewers, and stitchers, laundry and dry cleaning operatives).

[5]They may also minimize the costs of interrupted practice of the occupation, in that the skills required to practice the occupation minimally atrophy. Polachek (1979) tests and confirms this hypothesis, although he in fact uses data on occupational choice after labor force entry to test the theory that *expected* labor force participation affects educational investment decisions. Blakemore and Low (1984) test the Polachek idea with data on educational investments prior to labor force participation.

Qualifying Hypothesis

Aneshensel and Rosen (1980) find that socio-economic class affects the gender-typicality of occupational choices for women with the same labor force expectations. Specifically, they find that among women who expect continuous labor force participation, those from the working class are more likely to select typically female occupations than women from the middle and upper middle classes. The typically female occupations selected tend to be white collar, such as teacher or registered nurse.

We assumed earlier that women who expect continuous labor force participation will use the same calculus as their male age mates in selecting occupations. If this is true, one interpretation of the Aneshensel and Rosen finding is that young women will continue to choose gender-typical occupations if they can obtain the rewards sought by their male counterparts *without leaving the domain of traditional choice.*

Occupations in both the sets of typically male and typically female jobs vary in status, working conditions, and wages. However, occupations in the female set are more homogeneous in these ways than those in the male set. As measured by these dimensions, certainly the best jobs and probably the worst jobs are underrepresented in the set of typical female occupations. Educational and occupational progress from one generation to the next tends to be moderate. Thus, ambitious children of working class parents, whether boys or girls, will tend to aspire to middle level job and moderate, not high, levels of education. Daughters of working class parents who plan continuous labor force participation can get wage and status payoffs commensurate with their occupational aspirations and educational investments *without leaving the domain of traditional choice.* They can simply choose a traditionally female job that in the context of all occupations has moderate status and pay.

By this same reasoning, daughters of middle and upper middle class families who plan continuous labor force participation are more apt to aspire to high level jobs and to achieve high levels of education. They are more apt to have to leave the domain of traditional choice to get payoffs commensurate with their occupational aspirations and educational investments.

We can test this idea in Hypothesis 3.

Hypothesis 3. Among women who expect continuous labor force participation, those who come from working class families are more likely to select gender-typical occupations than women from middle or upper middle class families.

Factors that Affect Labor Force Plans

If these hypotheses are confirmed, it is important to understand *why* young women vary in their expected commitments to the labor force and home. Although relatively unchartered territory, this is an important question, especially for public policy.

Our data base does not include some variables that we think are important to the labor force decision. We also do not have the resources to develop, refine, and estimate the statistical models (e.g., path models) most isomorphic with the causal relationships as we envision them. However, within the limits of the data base and straightforward models, we can test certain hypotheses about factors that affect the decision. We consider only two factors here: the young woman's academic ability and the intergenerational transmission of family, labor force, and occupational preferences.

Effects of academic ability. We propose that a girl's academic abilities affect her labor force/home choice. As an adult, a woman can support herself by marrying someone who will support her or by working in the labor market. Academic ability gives access to educational opportunities. Since both are rewarded in labor markets, but not necessarily in marriage markets, higher ability women are more likely to plan continuous labor force participation than lower ability women.

Hypothesis 4. Women with higher academic ability are more likely than those with lower academic ability to plan continuous labor force participation and therefore to select a traditionally male occupation.

Intergenerational transmission of labor force and occupational preferences. We propose that individuals significant to the young woman affect the occupational alternatives that she considers and their utilities for her. The influence mechanism may be explicitly expressed beliefs and attitudes or behavioral example (i.e., "observational learning").[6] At present our understanding of influence processes is primitive, in that we know more about who influences young people than about how these individuals affect the young person's major life choices.

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[6]For example, Parsons, Adler, and Kaczala (1982) report that mothers and fathers held sex-differentiated perceptions of their children's mathematics aptitude, despite the similarity of the actual performance of sons and daughters. Parents felt that daughters had to work harder to do well at mathematics than sons and that advanced mathematics was more important for sons than for daughters. The children's self and task perceptions in mathematics were more related to the parents' beliefs about their mathematical aptitude and potential than the children's past performances in mathematics. In this study parental beliefs and attitudes, but not the parents' use and enjoyment of mathematics in their own lives, affected their children's self-definitions. Thus, in this case the parental influence mechanism was expressed expectations, not behavioral example.

Analyses of our data base show that in 1979 68 percent of the population of girls aged 14–17 years old and 71 percent of their male counterparts identify mother, father, or both parents as exerting the most significant influence on decisions important in their lives.[7] Specifically, for this age group of girls, 23 percent identify the mother alone as most influential; 40 percent, both parents; and only 5 percent, the father alone. If we can treat self-report influence measures as valid—and they produce results consistent with studies that examine relationships between independent measures of the parents' values and beliefs and those of their children—mothers are the most important single influence on the majority of teenage girls, either alone or in combination with the girls' fathers.

If mothers are the single most important influence on daughters, the next problem is determining what Keniston (1964) call the "lessons of the mother's life." Earlier studies (Hartley, 1959–60; Peterson, 1958; Tangri, 1969 and 1972; Almquist and Angrist, 1970; Angrist, 1972; Etaugh, 1974; Hoffman, 1974; Wallston, 1973) indicated that maternal employment was key to the daughter's employment and occupational choices, a working mother having positive effects on a daughter's labor force commitment and choice of an atypical occupation.

However, as early as 1963, Hoffman warned that "maternal employment is not so potent a variable that it can be used without further specification and without examination of the data separately for subgroups" (p. 191). D'Amico, Haurin, and Mott (1983) reviewed the literature on the effects of mothers' employment on adolescent and early adult outcomes. They also conducted sophisticated analyses of data from the somewhat dated *National Longitudinal Surveys of Labor Market Experience* of mature women (30–44 years old in 1967), young men (14–24 years old in 1966), and young women (14–24 years old in 1968). On the basis of their literature review and analyses, they conclude:

> There is a strong tendency for mothers to transmit intergenerational educational behavior patterns to daughters and sons. There is also considerable evidence that mothers can transmit non-traditional values and career orientations to their daughters. There is very little evidence that the employment of mothers per se has any pervasive effect—positive or negative—on the educational, family, or career paths of their sons or daughters. (p. 167)

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[7]Not surprisingly, living in a female-headed household at age 14 decreases the choice of both the father and two parents as major influencers and increases the choice of the mother. It does not particularly affect choice of male or female peers/siblings or of nonparental adults.

More recent research has revealed the limits of earlier studies, based as they usually were on samples of middle and upper middle class girls. These are girls who came primarily from intact families, whose mothers probably worked more from choice than from necessity, and whose mothers' occupations tended to be white collar. As Macke and Morgan (1978) and D'Amico, Haurin, and Mott (1983) observe, a daughter can draw *negative,* as well as positive, conclusions from the "lessons of the mother's life," depending on the mother's attitude toward the choices she makes—or has to make—and how successfully she executes them.

We assume that mothers have chosen a single role (family only) or a dual role (work and family) and that daughters can perceive maternal choices as positive or negative. We hypothesize that the mother's choice and the daughter's perception of the attractiveness of that choice define the set of family, labor force, and occupational alternatives that the daughter considers. Since they have not yet formed families of their own, daughters can entertain three family/labor force alternatives: family only, work only, or some balance between family and work.

Since we lack measures of daughters' perceptions of their mothers' choices, we cannot test the next two hypotheses directly. We state them as context for derivative hypotheses that we can test.

Hypothesis 5. If a daughter regards her mother's family, labor force, or occupational choices negatively, her choices in these domains will differ from those of her mother.

Hypothesis 6. If a daughter regards her mother's family, labor force, or occupational choices positively, she will repeat her mother's choices.[8]

A number of factors could affect what conclusions daughters draw from their mothers' lives. Here we consider only two possible factors: the mother's occupation and the composition of the household in which the daughter grows up (female-headed or intact).

Studies of how mothers who work in low-status and low-wage occupations affect their daughters' labor force commitment report contradictory results (e.g., Macke and Morgan, 1978; D'Amico, Haurin, and Mott, 1983). One explanation of these contradictions is that even if daughters negatively evaluate their mothers' low-status and low-wage occupations and reject their mothers' choices, we do not know *what alternatives daughters select.* They can reject working *or* reject working at an unrewarding occupation.

[8]For example, D'Amico, Haurin, and Mott (1983) found that mothers who work and say that they would continue to work even if they did not need the money are more apt to have daughters who, at the ages of 24–27, plan to work when they are 35. It seems plausible that girls whose mothers apparently enjoy their work are more likely to appraise their mothers' labor force choices positively and to repeat those choices.

Hypothesis 7. If their mothers work in low-wage blue collar or service occupations, daughters are less likely to plan to repeat their mothers' labor force and occupational choices.

Although Hypothesis 7 assumes that the mother's occupation will affect the traditionality of the daughter's occupational choice, it does not predict direction. The choice may be more traditional, by virtue of a reduced commitment to the labor force, or less traditional by virtue of an increased commitment to occupations more rewarding than traditionally female occupations.

A second factor is family structure: intact versus female-headed households should affect daughters' labor force, home, and occupational plans.

It is often assumed that a female-headed family is a welfare family, and that daughters in these families will repeat their mothers' mode of life, i.e., create "second-generation" welfare families. Analyses of longitudinal data collected on families from 1967–1971 show that, all else equal, even coming from a longer-term welfare family increases by only 5 percent the chances that "splitoffs" from the family will be on welfare. The variation in this pattern is so great that the authors cannot even conclude with certainty that the welfare status of families has any intergenerational effect (Morgan et al., 1974). Thus, *at least for this time period,* welfare mothers per se do not beget welfare daughters.

D'Amico, Haurin, and Mott (1983) examined the effects of being in a broken home (i.e., female-headed household created by divorce or death) on educational and career outcomes for boys and girls who were 14–17 years of age in the late 1960s. They found that a broken home depressed the occupational status of the *sons'* 1976 job and expected occupation at age 30. However, a broken home *increased* the status of the occupation expected by daughters at age 35.

We suspect that daughters in female-headed households may see their mothers either as negative models or as male models.[9] However, the result will be the same: coming from a female-headed household will increase the chances that daughters will choose traditionally male occupations.

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[9]Female-headed households are usually financially stressed. This family environment could motivate daughters to find ways of "not ending up" like their mothers, whether their mothers are on welfare or work in low-wage occupations. If a girl rejects the welfare alternative, the structure of her own home should make her less likely than girls in intact families to select marriage and home as an alternative. This leaves a higher wage occupation as a solution. Most female single parents also work—for example, 57 percent of the female heads in our population of 14–17 year old girls in 1979. These mothers, as head of household and primary breadwinner, are examples of women who operate like men.

Hypothesis 8. Girls from female-headed households are more likely to plan continuous labor force participation and therefore a traditionally male occupation than girls from intact families.

Our discussion about the effects of a significant other on young women's occupational choices has thus far assumed that the mother is the most important influence on the daughter. We do not know how the selection of the father as the significant other might affect a girl's labor force and occupational plans. There is some evidence that fathers have more traditional family/work expectations for their daughters than mothers or daughters themselves (Peterson et al., 1982). For several reasons we also suspect that the father's influence will vary with his socio-economic status.

Since socio-economic status is positively associated with progressive sex-role attitudes, we suspect that lower socio-economic status fathers will predispose daughters to more traditionally female choices (labor force and occupational) than higher socio-economic status fathers. Family socio-economic status is also negatively related to family size. A smaller family is less apt to have a son as well as a daughter, and in the absence of a son, fathers are more apt to imbue their daughters with aspirations that they might otherwise reserve for the son. A larger and lower status family also has fewer resources to invest in more people. Peterson et al. (1982) show that when parents have inadequate resources to support the career objectives of all children, they tend to invest in the son rather than the daughter.

We also do not know if significant others who tend to influence a young woman later than parents, such as teachers, counselors, or male and female peers, have different influences than parents—or whether a girl only accepts influence from nonparental others whose views or behaviors are consistent with those of her parents. For example, the 14–17 year old girls in our sample who identify male peers as key influences on their life decisions have very traditional home, work, and occupational expectations. However, the choice of a male peer as the significant other in her teenage years may simply represent the implementation of very traditional, prior *parental* expectations for her.

SAMPLE, VARIABLE DEFINITIONS, AND STRUCTURE OF THE ANALYSIS

Sample

Our analysis uses data from the *National Longitudinal Survey of Youth Labor Market Behavior* (NLS). This survey began in 1979 with

a national probability sample of those aged 14 to 21 on January 1, 1979, and living within the United States or on active military duty outside of the United States. The sample excludes those permanently institutionalized. A total of 12,686 persons completed interviews in 1979, with an oversampling of Hispanics, blacks, economically disadvantaged nonblack non-Hispanics, and a separate sample of 1,280 persons on active duty in the military.

In the baseline interview year, the respondents provided detailed information on their family background; schooling and training history; work history; marital and fertility status; characteristics of their current job; earnings and income; their attitudes toward their current job; and educational, training, occupational, marital, and parenting preferences and expectations.

Our analysis of the gender typicality of occupational expectations uses a subset of the data described above. We restrict our sample to males and females 14 to 17 years old at the baseline interview in 1979. We selected this age group because it has a wider range of knowledge about occupational alternatives than younger children, i.e., the concept of choice has more meaning. Choice at these ages is also less affected by the realities of labor markets, postsecondary educational experiences, and marital and parenting responsibilities. Thus, it is a good age for investigating the gender typicality of *initial* occupational *expectations*, as opposed to changes in expectations as a function of post-high school experiences. The latter is an important question, but requires a separate study.

Variable Definitions

Table 1 defines all of the variables used in the models. Most of the measures are straightforward and require no explanation. We define our central predictor variable, the traditionality of the occupation, as the proportion female in that Census three-digit occupation in 1979. The occupation is that named by the respondent as the one she would like to have when she is 35 years old. We do not assume that occupations named in the teenage years will be those actually achieved almost two decades later,[10] nor does the validity of this study depend on being able to make that assumption. Whether the individual realizes the expectation or not, that expectation nonetheless affects other major choices, such as educational.

[10]In fact, we suspect that the *traditionality* of the initial preference and of the subsequent achievement may be fairly congruent.

Table 1

NAMES AND DEFINITIONS OF VARIABLES FOR ANALYSIS OF OCCUPATIONAL CHOICE

Variable Name	Variable Definition
Occupational Preference	
TRAD35	Traditionality of occupation preferred at age 35
MALEOCC35	(D) Occupation preferred at age 35 ≤ 25% female
Home and Labor Force Preferences	
FAMILY35	(D)[a] Respondent's preferred activity at age 35 is marriage and family
EARLY MARRIAGE	(D) Respondent wants to marry before age 25
NO CHILD	(D) Respondent wants no children
EARLY CHILD	(D) Respondent wants first child at ≤ 19 years of age
FAMILY SIZE	Desired number of children
SEX ROLE 1	Sex Role Attitudes 1: Beliefs about proper labor force and home role for women (High=traditional attitudes)
SEX ROLE 2	Sex Role Attitudes 2: Expected consequences to the family of a working wife (High=positive consequences of work)
WORKING	(D) Respondent currently has paid job
RESERVE WAGE	Average of wages respondent would accept for 7 different occupations (Scale: 1-4, High=4)
Ability	
ASVAB1	Verbal and quantitative skills
ASVAB2	Mechanical, electronic, and automotive knowledge
ASVAB3	Clerical/administrative skills
Influences of Significant Others on Occupational Choice	
MOM EDUCATION	Mother's educational attainment in years
DAD EDUCATION	Father's educational attainment in years
DAD BLUE COLLAR	(D) Father's occupation when respondent was age 14=blue collar, but not craft
DAD CRAFT	(D) Father's occupation when respondent was age 14=craft
DAD MALE OCC	(D) Father's occupation when respondent was age 14 ≥ 75% male

Table 1—(continued)

Variable Name	Variable Definition
Influences of Significant Others on Occupational Choice (continued)	
MOM TRAD WORK	(D) Mother worked when respondent age 14 in an occupation ≥ 90% female
MOM NONTRAD WORK	(D) Mother worked when respondent age 14 in an occupation ≥ 90% female
MOM SERVICE	(D) Mother's occupation when respondent was age 14=laborer or service
MOM BLUE COLLAR	(D) Mother's occupation when respondent was age 14=craft or operative
FEMALE HEAD	(D) Respondent lived in female-headed household at age 14
CARPENTER	(D) Respondent (R) thinks that an individual significant to R would approve if R chose to become a carpenter
ENGINEER	(D) Respondent (R) thinks that an individual significant to R would approve if R chose to become an electrical engineer
MILITARY	(D) Respondent (R) thinks that an individual significant to R would approve if R chose to join the armed forces
COLLEGE	(D) Respondent (R) thinks that an individual significant to R would disapprove if R chose not to go to college
CAREER	(D) Respondent (R) thinks that an individual significant to R would approve if R pursued a career and delayed marriage[b]
PARENT	(D) Respondent (R) thinks that an individual significant to R would approve if R did not have children[c]
Controls	
AGE	Respondent's age at 1979 interview in years
KNOWLEDGE TMJOB	Knowledge about typically male occupations (Scale: 0-4, High=4)
DROPOUT	(D) Respondent has no high school degree and is not enrolled in school
ED EXPECTATIONS	Respondent's expected educational attainment in years
CONTROL	Locus of control (Scale: 0-16, 16=internal control)
BLACK	(D) Respondent=black
HISPANIC	(D) Respondent=Hispanic
VOCATIONAL ED	(D) Respondent's high school curriculum=vocational

[a](D) = dummy variable.
[b]This variable enters models for female choice only.
[c]This variable enters model for male choice only.

We experimented with various functional forms of the traditionality variable, including a linear form that measures proportion female and ranges from 0.0 to 1.0 and a dummy variable that divides the continuous form into two categories—a traditionally male occupational choice and all other choices. We coded an occupation as traditionally male if the work force was less than or equal to 25 percent female.

The independent variables include several scales. The measures SEX ROLE 1 and SEX ROLE 2 result from our factor analysis of a series of seven items measuring the respondent's attitudes about the proper family and work roles of men and women and the consequences of the employment of a wife.

A factor analysis of scores on the 10 subtests of the Armed Services Vocational Aptitude Battery (ASVAB)[11] produced three factors: ASVAB1, ASVAB2, and ASVAB3. The factor structure was the same for both sexes. Five subtests load most heavily on the first factor—general science, mathematics knowledge, arithmetic reasoning, word knowledge, and paragraph comprehension. ASVAB1 measures the individual's verbal and quantitative skills. ASVAB2, a stronger factor for boys than for girls, is associated with the general science, automotive and shop information, mechanical knowledge, and electronic knowledge subtests. It reflects knowledge about things. ASVAB3 is associated with coding speed and numerical operations and reflects skills with clerical and routine operations.

The independent variables include several measures of the respondent's perceptions of how the person that the respondent identifies as most influential in his or her life decisions would feel if the respondent made particular educational, career, marriage, and parenting choices.[12] We wanted to include six of the significant other variables in the model and factor analyzed the data for these dimensions to see if we could substitute one or two factors for the six variables.

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[11]The ASVAB was administered to the sample in the first NLS followup survey in 1980. The weights for the ASVAB variables take account of the fact that not all respondents to the 1979 baseline survey took the ASVAB in 1980. The military services administer the ASVAB to all enlistment applicants to determine their eligibility for service and for particular occupations. It consists of 10 subtests: general science, mathematics knowledge, arithmetic reasoning, word knowledge, paragraph comprehension, numerical operations, coding speed, automotive shop information, mechanical comprehension, and electronics knowledge.

[12]The 1979 baseline questionnaire asked all 14 to 17 year olds to select from a list of types of individuals (e.g., parents, male peers, female peers) that person who had most influenced their thoughts about school, marriage, jobs, and having children. Each respondent was then asked his or her perception of whether the person named would approve if the respondent decided: to become a carpenter, to join the armed forces, to become an accountant, to become an electrical engineer, *not* to go to college, to move far away from home, to never have children, and (for female respondents only) to pursue a full-time career and delay starting a family.

However, the factor structures differ for boys and girls and, although interpretable, are complex.[13]

The other scales listed in Table 1 are simple additive scales. For example, RESERVE WAGE represents the average of the respondent's responses to seven ordinal scales.[14] The only exception is CONTROL, which weights each response on the internal/external focus of control scale by the strength with which it is held.

Table 2 presents the means and standard deviations for the variables in the model, weighted to reflect the 1979 population of American 14–17 year olds. Clearly, the traditionality of occupational choices differs by gender. The average percent female of male choices is 16; of female choices, 62. Girls vary more in the traditionality of their choices than boys, as indicated by gender differences in the standard deviations for TRAD35 and by cross-tabulations of gender and the traditionality of occupational choice. When we define a traditionally female occupation as greater than or equal to 75 percent female and a mixed occupation as 26 to 74 percent female, we find the following distribution for the total population. Girls are 8.5 times more likely to choose traditionally male occupations than boys are to choose traditionally female occupations. They are 1.5 times more likely to choose mixed occupations. The differences by gender are much greater than by race.[15]

TRADITIONALITY OF OCCUPATIONAL CHOICES BY SEX
(Percent)

Occupational Choice	Males	Females
Traditionally female	2.3	47.2
Mixed	22.1	33.3
Traditionally male	75.7	19.5

[13]The factor analyses suggest that an "approval" dimension runs through the variables—in other words, that respondents expect that the significant other will approve of whatever they choose. There is also a suggestion, especially for girls, that their perceptions of the significant other's attitudes toward choices that they might make in the educational, career, and marital/parenting domains are somewhat inconsistent with each other. If we assume that the observed attitude structure is valid, i.e., not a methodological artifact, the structure probably reflects career versus family cross-pressures on young girls.

[14]Each respondent was asked what wages he or she would accept for each of seven different jobs. There were three wage options. If the respondent accepted the lowest option, he or she received a score of one. If the respondent rejected the lowest option, he or she was asked if the next option was acceptable. If the individual rejected the highest option, he or she received a score of four for that job.

[15]Among boys blacks are somewhat less likely to choose traditionally male occupations and more likely to select mixed occupations than Hispanics or whites. Among girls whites are somewhat less likely to select traditionally female occupations and more likely to select mixed occupations than Hispanics or blacks.

Table 2

MEANS AND STANDARD DEVIATIONS OF VARIABLES FOR ANALYSIS OF OCCUPATIONAL CHOICE

Variable	Male Sample		Female Sample	
	Mean	Standard Deviation	Mean	Standard Deviation
Occupational Preference				
TRAD35	0.159	0.183	0.616	0.331
MALEOCC35	0.751	0.433	0.197	0.398
Home and Labor Force Preferences				
FAMILY35	—	—	0.202	0.402
EARLY MARRIAGE	0.514	0.500	0.687	0.464
NO CHILD	0.070	0.255	0.072	0.259
EARLY CHILD	0.072	0.258	0.082	0.274
FAMILY SIZE	2.542	1.466	2.587	1.580
SEX ROLE 1	−0.071	0.965	−0.074	0.933
SEX ROLE 2	−0.041	0.965	−0.048	0.948
WORKING	0.103	0.304	0.088	0.283
RESERVE WAGE	2.139	0.796	2.249	0.762
Ability				
ASVAB1	0.321	1.016	0.344	1.000
ASVAB2	0.326	0.958	0.238	0.955
ASVAB3	0.230	0.950	0.265	0.942
Influences of Significant Others on Occupational Choice				
MOM EDUCATION	11.726	2.629	11.597	2.625
DAD EDUCATION	12.048	3.424	11.875	3.473
DAD BLUE COLLAR	0.254	0.435	0.231	0.421
DAD CRAFT	0.203	0.402	0.212	0.409
DAD MALE OCC	0.720	0.449	0.753	0.431
MOM TRAD WORK	0.197	0.396	0.198	0.399
MOM NONTRAD WORK	0.339	0.473	0.364	0.481
MOM SERVICE	0.153	0.360	0.160	0.367
MOM BLUE COLLAR	0.102	0.303	0.116	0.320
FEMALE HEAD	0.133	0.339	0.148	0.355
CARPENTER	0.821	0.384	0.573	0.495
ENGINEER	0.901	0.298	0.651	0.477
MILITARY	0.618	0.486	0.403	0.491
COLLEGE	0.294	0.456	0.254	0.436
CAREER	—	—	0.732	0.443
PARENT	0.299	0.458	0.337	0.473
Controls				
KNOWLEDGE TMJOB	2.762	1.075	2.403	1.033
AGE	15.588	1.078	15.601	1.079
DROPOUT	0.053	0.224	0.041	0.198
ED EXPECTATIONS	13.935	2.280	14.070	2.152
CONTROL	11.257	2.316	10.935	2.397
BLACK	0.135	0.342	0.139	0.346
HISPANIC	0.057	0.232	0.064	0.244
VOCATIONAL ED	0.124	0.330	0.131	0.337

Girls are more likely to expect to marry relatively early than boys, but the sexes do not differ in the proportion expecting to have no children or to have children early. On average they expect about the same family size. Although the means and variances in their sex role attitudes (SEX ROLE 1 and SEX ROLE 2) are the same, the similarity is methodological, not substantive. The factor analysis program standardizes the factor scores at a mean of zero and standard deviation of one.

The means and standard deviations for the ASVAB1, ASVAB2, and ASVAB3 factors have the same interpretation as those for the SEX ROLE 1 and SEX ROLE 2 factors. The means for the 10 separate subtests that entered the factor analysis differ predictably by gender. Girls have higher scores than boys on the verbal subtests (word knowledge and paragraph comprehension) and on the subtests that measure clerical skills (numerical operations and coding). Boys have higher scores than girls on the science and mathematics subtests and on the mechanical, electronic, and automobile and shop subtests.

Girls are less likely than boys to perceive that individuals significant to them would support their choice of a traditionally male occupation (CARPENTER, ENGINEER, and MILITARY). When we divide significant others into categories—father, mother, both parents, male peer or sibling, female peer or sibling, or other adult (teacher, counselor, other relatives)—we find that girls who name a male peer or male sibling are least likely to see support for these occupations.

When we cross-tabulate the nature of the influential person with traditionality of the occupation selected for age 35, we find that for boys the chances of naming a traditionally female occupation do not vary by nature of the influential person. Girls who name their father are less likely to name a mixed occupation and somewhat more likely to name a traditionally female occupation *or* a traditionally male occupation. Girls who name other adults are somewhat more likely to name a traditionally male occupation, and those who name a male peer or sibling are much more likely to name a traditionally female occupation. Boys who name their father or a *female* peer or sibling are more likely to name a traditionally male occupation.

Analytic Strategy

We used ordinary least squares regression to estimate the models for the continuous form of the dependent variable (TRAD35).[16] Since the

[16]As noted earlier, statistical models such as path analysis are more isomorphic with the structure of our hypotheses than ordinary least squares techniques. However, the concentration of project resources on the turnover analysis dictated simple models for the choice analysis.

dummy form of the dependent variable (MALEOCC35) receives codes of only zero or one, we estimated the model for this form of the dependent variable with logit, a maximum-likelihood technique appropriate for the analysis of dichotomous dependent variables (Goodman, 1976). To make the results easier to interpret, we transform the estimates of log odds coefficients by multiplying each by $(P)(1 - P)$, where P is the mean of the dependent variable (see Hanushek and Jackson, 1977). These transformed coefficients can be interpreted in the same way as regression coefficients—they show the estimated effect of a one-unit change in an independent variable on the probability of job turnover, evaluated at the sample mean.

Our analysis treats missing data in two ways. We excluded from the analysis any case with missing information on the dependent variable or with incomplete responses to any of the questions that the respondent should have answered. However, where information was incomplete because of the questionnaire skip patterns (e.g., no data on father's education for those with no father in the household), we set that variable equal to a predetermined missing value code and included a dummy variable coded one to identify observations with that missing value. This strategy allowed us to retain in the sample individuals for whom we were missing data on variables that applied to less than the total sample—for example, no data on father's occupation because the respondent never knew the father, or no data on mother's occupation because the mother never worked.

This is an accepted method for dealing with missing data but not the most efficient. Results obtained using this strategy tend to be qualitatively similar to those without the observations with missing data, but standard errors tend to be somewhat larger. One cannot interpret the coefficients for missing variable dummies because their magnitude depends on the arbitrary value assigned to them (for example, when no father lived in the household, we coded father's education as 99). For this reason, and to keep the size of the tables manageable, we deleted the coefficients for missing value indicators from our reported results.

We estimate the models with weighted data. The choice analysis was exploratory, and we iteratively refined initial specifications of the models on the basis of cross-tabulations, factor analyses, breakdowns, and correlations. The NLS substantially oversamples certain subgroups, and we used weighted data to eliminate composition effects from the specification process. However, the tests of significance (t-scores) for the regression coefficients are corrected for these weights.

RESULTS OF OCCUPATIONAL CHOICE ANALYSIS

When we estimated the model for the different forms of the dependent variable, we found that for the male sample the two forms yielded the same information. Thus, we present results for the linear form only for the boys. The dummy form yields additional information for the female sample, and we present estimates for both forms of the dependent variable for the girls.

Table 3 displays the regression estimates for the TRAD35 dependent variable for boys and girls; Table 4, the logit results for the MALEOCC35 dependent variable for girls only. The purpose of the choice analyses was to extend our understanding of *girls'* occupational choices, and our hypotheses and model specifications reflect that priority.[17] We accordingly focus our discussion of results on the results for girls, with only brief comments for boys at the end of the section.

Girls' Occupational Choices

Hypothesis 1 states that women who expect to allocate more time to the home are more likely to expect intermittent labor force participation and therefore to select a typically female occupation. Testing Hypothesis 1 requires indicators of the respondent's expected commitments to home versus labor force.

Although we lacked direct measures of these preferences, we assume that, relative to other girls, a girl values the home more than the labor force if she: (1) expects to marry earlier (EARLY MARRIAGE), bear children earlier (EARLY CHILD), and have a larger family (FAMILY SIZE); (2) prefers at age 35 to be married with a family than working in the labor force (FAMILY35); (3) has traditional sex role attitudes; (4) is not working at the time of the survey; and (5) has a lower reservation wage.

The results confirm Hypothesis 1, although not all variables that we thought would predict a traditionally female occupational choice have statistically significant effects. Girls who prefer to marry earlier (EARLY MARRIAGE), who prefer to be homemakers at age 35 (FAMILY35), and who do not think that wives' working outside the home benefit the family (SEX ROLE 2) are more likely to select a traditionally female occupation. Preferred timing of child bearing (EARLY CHILD), family size, beliefs about the proper home and labor force roles for women (SEX ROLE 1), and reservation wages (RESERVE WAGE) do not have statistically significant effects on TRAD35.

[17]Not surprisingly, the variance explained by the model differs by gender, performing better for girls (R squared equals 0.1758) than for boys (R squared equals 0.0829).

Table 3

REGRESSION COEFFICIENTS FROM MODELS OF TRADITIONALITY OF OCCUPATIONAL CHOICE

(Men and Women, Ages 14–17)

Variable	Male Sample		Female Sample	
	Regression Coefficient	T Ratio	Regression Coefficient	T Ratio
Home and Labor Force Preferences				
FAMILY35	—	—	0.0674	5.0946
EARLY MARRIAGE	0.0115	1.4870	0.0438	2.9155
NO CHILD	0.0000	0.0023	−0.0224	−0.8195
EARLY CHILD	0.0157	1.0264	−0.0063	−0.2470
FAMILY SIZE	0.0022	0.8150	0.0021	0.4748
SEX ROLE 1	−0.0013	−0.3057	0.0097	1.2591
SEX ROLE 2	0.0040	0.9993	−0.0134	−1.9006
WORKING	0.0294	2.2076	0.0039	0.1629
RESERVE WAGE	0.0048	0.9731	−0.0108	−1.2000
Ability				
ASVAB1	0.0295	4.8538	−0.0607	−5.9692
ASVAB2	−0.0476	−8.7727	−0.0065	−0.7900
ASVAB3	0.0148	2.8921	0.0244	2.8701
Influences of Significant Others on Occupational Choice				
MOM EDUCATION	−0.0013	−0.6484	−0.0050	−1.4582
DAD EDUCATION	0.0019	1.2427	−0.0025	−0.9496
DAD BLUE COLLAR	−0.0060	−0.5175	−0.0064	−0.3157
DAD CRAFT	−0.0084	−0.7232	−0.0048	−0.2425
MOM TRAD WORK	0.0287	2.5995	0.0208	1.0864
MOM NONTRAD WORK	0.0133	1.2231	−0.0190	−1.0058
MOM SERVICE	0.0047	0.3707	0.0145	0.6671
MOM BLUE COLLAR	−0.0200	−1.3641	−0.0364	−1.3874
FEMALE HEAD	0.0072	0.4585	−0.0593	−2.3131
CARPENTER	−0.0137	−1.2190	−0.0268	−1.7319
ENGINEER	−0.0210	−1.5153	−0.0438	−2.7055
MILITARY	0.0159	1.9595	0.0236	1.6893
COLLEGE	−0.0021	−0.2276	0.0237	1.4957
CAREER	—	—	0.0156	0.9967
Controls				
KNOWLEDGE TMJOB	0.0013	0.3231	0.0173	2.5069
AGE	0.0051	1.2780	−0.0023	−0.3467
DROPOUT	−0.0499	−2.7099	−0.1054	−2.9714
ED EXPECTATIONS	0.0007	0.3378	−0.0321	−8.2041
CONTROL	−0.0014	−0.8154	0.0010	0.3525
BLACK	0.0102	0.7670	0.0338	1.4959
HISPANIC	0.0091	0.5265	−0.0381	−1.3222

Table 4

LOGIT COEFFICIENTS FROM MODEL OF TRADITIONALLY MALE OCCUPATIONAL CHOICE
(Women, Ages 14–17)

Variable	Logit Coefficient	T Ratio
Home and Labor Force Preferences		
FAMILY35	-0.0625	-2.2912
EARLY MARRIAGE	-0.0626	-3.1321
NO CHILD	0.0382	1.0664
EARLY CHILD	0.0507	1.2860
FAMILY SIZE	0.0028	0.4418
SEX ROLE 1	-0.0207	-1.8823
SEX ROLE 2	0.0216	2.2002
WORKING	-0.0217	-0.6014
RESERVE WAGE	0.0221	1.7746
Ability		
ASVAB1	0.0485	3.4874
ASVAB2	-0.0015	-0.1276
ASVAB3	-0.0234	-1.9513
Influences of Significant Others on Occupational Choice		
MOM EDUCATION	0.0072	1.5115
DAD EDUCATION	0.0018	0.4979
DAD BLUE COLLAR	-0.0144	-0.4911
DAD CRAFT	0.0170	0.6084
MOM TRAD WORK	-0.0416	-1.5509
MOM NONTRAD WORK	-0.0303	-1.1703
MOM SERVICE	0.0294	0.9411
MOM BLUE COLLAR	0.0812	2.4383
FEMALE HEAD	0.0758	2.1256
CARPENTER	0.0265	1.2138
ENGINEER	0.0661	2.7749
MILITARY	-0.0396	-2.0206
COLLEGE	-0.0437	-1.7864
CAREER	-0.0396	-1.6786
Controls		
KNOWLEDGE TMJOB	-0.0086	-0.8812
AGE	-0.0124	-1.3555
DROPOUT	0.0375	0.6838
ED EXPECTATIONS	0.0377	6.9215
CONTROL	-0.0082	-2.0419
BLACK	-0.0242	-0.7564
HISPANIC	0.0765	1.9877

When we examine predictors of picking a traditionally male occupation at age 35 (MALEOCC35), we find stronger confirmation for Hypothesis 1. SEX ROLE 1 is statistically significant at p equal .03 for a one-tailed test; RESERVE WAGE, at p less than .04 for a one-tailed test.

The second hypothesis predicts that girls', but not boys', marital and child-bearing expectations will affect the traditionality of their occupational choices. We use EARLY MARRIAGE, NO CHILD, FAMILY SIZE, and EARLY CHILD to measure these expectations. Hypothesis 2 receives some support, in that girls who expect to marry early increase the traditionality of their occupational choice by four percentage points. The other three measures have no statistically significant effect on choice. However, *no* measures of marital and parenting expectations affect boys' occupational choices.

Hypothesis 3 states that for women who expect continuous labor force participation, those from lower socio-economic status (SES) families are more likely than those from middle and upper class families to select gender-typical occupations. Testing this hypothesis requires estimating the effect of the interaction of SES and labor force expectations on the traditionality of the occupational choice. Since a significant number of respondents do not know their father's education and occupation, we use MOTHER EDUCATION as an indicator of socio-economic status. We use FAMILY35 to indicate labor force expectations.

The analysis does not confirm Hypothesis 3, in that the interaction term, MOTHER EDUCATION × FAMILY35, was not statistically significant. In other words, among those girls who are committed to the labor force and controlling for other variables that affect choice, *the SES of the girl's family does not affect the traditionality of her occupational choice.*

Certainly girls from lower SES families, as measured by their mothers' education, select occupations that are more traditionally female than girls from higher SES families.[18] However, it is the positive relationship between SES and labor force commitment that accounts for the negative relationship between SES and the traditionality of occupational choices observed in other studies. Girls whose mothers have less than a high school degree are less committed to the labor market—24.2 percent choose homemaker at age 35, versus 18.3 percent of girls whose mothers completed high school and 17.8 percent of girls whose mothers have 13 or more years of education. As we have already shown, when

[18]On average, girls whose mothers completed less than 12 years of education select occupations whose percent female is 67; girls whose mothers completed high school, 63 percent; and girls whose mothers completed 13 or more years of education, 59 percent.

girls who prefer to be homemakers are forced to choose a labor force occupation, they make a traditionally female occupational choice.

Hypothesis 4 states that women with higher academic abilities are more likely than those with lower abilities to plan continuous labor force participation and therefore to select a traditionally male occupation. Using ASVAB1 as a measure of verbal and quantitative ability, we find strong confirmation for the hypothesis. Higher skills reduce the traditionality of the occupation selected and increase the chances of choosing a traditionally male occupation. On a scale of −2.86 to 2.91, a one point increase in ASVAB1 reduces the traditionality of the selected occupation by six percentage points. It increases the chances of selecting a traditionally male occupation by 5 percent.

Higher clerical skills (ASVAB3) increase the traditionality of the occupation selected and decrease the chances of selecting a traditionally male occupation. On a scale of −3.09 to 2.54, a one point increase in ASVAB3 increases the traditionality of the occupation selected by two percentage points and reduces the chances of selecting a traditionally male occupation by 2 percent.

As we noted earlier, we cannot test two predictions about the relationships between girls' views of their mothers' work, family, and occupational choices and the girls' choices (Hypotheses 5 and 6). Our data base lacks even reasonable proxies for the daughter's appraisal of her mother's family and work choices.

Hypothesis 7 predicts that mothers in less attractive occupations will affect the traditionality of the daughters' occupational choices, but does not predict the direction of the effect. We test Hypothesis 7 with MOM BLUE COLLAR and MOM SERVICE (MOM WHITE COLLAR being the omitted category). We assume that relative to white collar jobs, blue collar and service jobs are less attractive.

The results for TRAD35 disconfirm Hypothesis 7, in that the mother's occupation (blue collar, service, or white collar) does not affect the traditionality of girls' occupational choices. However, the results differ for MALEOCC35: girls whose mothers work in blue collar jobs have an 8 percent greater chance of selecting a traditionally male occupation.

We need more analyses to explicate these results. We do not think that we have a good test of Hypothesis 7, although it may be the best that we can do with our data base. For example, the three occupational categories tested are very gross; the *intra*-category variation in wages and working conditions may produce variable and ultimately cancelling responses in daughters. We also cannot predict the direction of the effect of mothers' occupations on their daughters' choices.

Daughters could respond to their mothers' work situation by reducing their commitment to the labor force—tilting them in a traditionally female occupational direction—or by rejecting their mothers' low-wage occupations, tilting them in a traditionally male direction. If our respondents *differed* in their responses to their mothers' choices, the effects cancel one another, leaving no net effect in either direction.

We also need to explicate the positive effect of mothers in blue collar jobs on MALEOCC35. This could be simply a methodological artifact of some kind. At the same time, the positive effect for MALEOCC35 may say less about the attractiveness of occupations than about the intergenerational transmission of occupational choices. Blue collar occupations tend to be less traditionally female than the white collar or service occupations. Thus the positive effect for MALEOCC35 may simply signal that daughters know about and repeat their mothers' less traditionally female occupations.

Hypothesis 8 predicts that girls from female-headed households are more likely to plan continuous labor force participation and therefore a traditionally male occupation than girls from intact families. We expect our measure of living in a female-headed household, FEMALE HEAD, to affect TRAD35 negatively and MALEOCC35 positively. Estimates for both TRAD35 and MALEOCC35 confirm Hypothesis 8. All else equal, being in a female-headed household at age 14 decreases the traditionality of girls' occupational choices by six percentage points and increases the chances of choosing a traditionally male occupation by 8 percent.

This finding is potentially very important. What has been a major structural change in household composition in our society[19] may generate a change of similar magnitude in daughters' home, labor force, and occupational choices.[20]

To explicate this finding we wanted to examine how contingent the female-headed effect was on factors such as the mother's education, the

[19]In 1950, 9 percent of all families were female-headed; in 1983, 16 percent (*Statistical Abstract of the United States, 1982–83,* Table 60; Johnson and Waldman, 1983). A much larger proportion of families have female-headed episodes during the period in which children grow to maturity. In the early 1970s white children had a 0.33 probability and black children a 0.60 probability of experiencing the divorce of their parents before they themselves were 18 years of age (Bumpass and Rindfess, 1979). Since children usually reside with the mother after a divorce, the probabilities of divorce translate into the probabilities of living for some period of time in a female-headed household. These probabilities represent the lower limit on the chances of a child's living in a female-headed household because they do not take into account children of never-married mothers.

[20]As male-headed, single parent families become more common, it will be important to monitor what, if any, effects the gender of the single parent has on same-sex and cross-sex children.

mother's labor force participation, the traditionality and status of the mother's occupation, and the welfare status of the family. However, we had sufficient resources only to look at the relationships among family composition, race/ethnicity, and daughters' occupational preferences at age 35.

TRADITIONALITY OF OCCUPATIONAL CHOICE BY HOUSEHOLD STRUCTURE AND RACE/ETHNICITY

Race/Ethnicity	Household Structure	MALEOCC35	MIXEDOCC35	FEMALEOCC35	Total
All girls	Intact	18.6	33.5	47.9	100.0
	FHH[a]	25.1	31.8	43.1	100.0
White girls	Intact	18.2	34.8	47.0	100.0
	FHH	29.6	33.5	36.8	100.0
Black girls	Intact	19.3	28.1	52.6	100.0
	FHH	18.6	30.3	51.1	100.0
Hispanic girls	Intact	20.9	26.1	52.8	100.0
	FHH	26.7	20.5	53.0	100.0

[a]FHH: Respondent was living in a female-headed household at the age of 14.

As this cross-tabulation shows, the effect of female-headed households on occupational choice is limited to Hispanic and non-Hispanic white girls. The effect is greatest for non-Hispanic, white girls, increasing the chances of selecting a traditionally male occupation from less than one in 5.5 to almost one in 3.4—an increase of 61 percent. It does not affect choice of a mixed occupation, but reduces the chances of selecting a traditionally female occupation from one in 2.1 to one in 2.7. For Hispanic girls, a female-headed household increases the chances of selecting a traditionally male occupation from one in 4.8 to one in 3.8. It does not affect selection of a traditionally female occupation, but reduces the chances of choosing a mixed occupation.

Household structure does not affect the traditionality of black girls' occupational choices.[21] We do not know why. One explanation is historical differences among subgroups in family structures and the economic role of the mother. Although female-headed households substantially increased in the last decade among blacks, it has always been a more common household form among blacks than among whites or Hispanics. Whatever it is about this kind of household that affects daughters' occupational choices may have diffused within the black

[21]Household structure may affect dimensions of black girls' occupational choices other than traditionality, such as occupational status.

community, affecting the occupational choices of all black girls, whether raised in female-headed or intact households.

Perhaps more important, even when married black women have participated in the labor force at higher rates than their white and Hispanic counterparts. In other words, they have traditionally played economic roles that white and Hispanic women have generally played only when coming from a female-headed household.

In sum, of the hypotheses that we test, the results support Hypotheses 1, 2, 4, and 8. They do not support Hypothesis 3. They support Hypothesis 7 only partially and in ways that raise more questions than they answer.

Tables 3 and 4 contain other results for girls worthy of brief comment. We discuss results for TRAD35 (Table 3) first. If the respondent reports that the significant other would approve if she became a carpenter or an engineer, she selects a less traditional occupation at age 35. As noted earlier, the causality in this relationship could go in either direction.[22]

KNOWLEDGE TMJOB consists of the sum of correct answers to questions about four different traditionally male occupations.[23] We included the variable as a control because it is often assumed that lack of knowledge about nontraditional occupations accounts partly for traditionally female occupational choices. And, in fact, crosstabulations showed a positive association between a traditionally male occupational preference and the highest score for KNOWLEDGE TMJOB.

However, when other variables are controlled, such as general cognitive achievement as measured by ASVAB1, knowing more about traditionally male occupations slightly *increases* the percent female of the occupation preferred at age 35. We think that the variable may be operating as a proxy SES variable. Girls in lower SES families are more apt to pick traditionally female occupations. However, they are also more apt to have fathers and brothers in highly traditionally male occupations, such as machinist. Thus, they know about these occupations, but knowledge about traditionally male occupations is not sufficient for choosing them. This result implies limits to the effects of occupational knowledge on occupational choice—at least limits of knowledge as it is measured here.

Being a high school dropout strongly and negatively affects TRAD35, reducing the percent female of the preferred occupation by

[22]Support for nontraditional occupational choices could increase the chances of such a choice, or girls who prefer these occupations may assume that individuals whom they generally find supportive will approve of their preferences.

[23]Hospital orderly, forklift operator, machinist, and economist.

11 points. It increases the probability of choosing a traditionally male occupation (MALEOCC35) by .04. We do not know why dropping out reduces the traditionality of the occupation selected. However, the effect persisted through all specifications of the models, and it deserves more analytic attention than our resources allow. We can observe that at the Census three-digit level most of the traditionally female occupations are white collar occupations. These occupations, such as typist and secretary, require verbal skills that dropouts tend not to have. If dropouts at this age are at all realistic about their skills relative to those required for different jobs, they may believe that many of the most traditionally female jobs are foreclosed to them.

Educational expectations also negatively affect TRAD35. Every additional year of education that the respondent expects to attain reduces the percent female of the preferred occupation by three points. It increases the probability of choosing a traditionally male occupation by .04.

These results are consistent with our initial theoretical expectations. We assumed that young women with high academic achievements are more likely to assign priority to the labor force over the home than those with lower achievements. We also assumed that those with greater labor force commitments are more likely to consider occupations with greater educational requirements, an occupational set that includes many traditionally male occupations. Educational expectations should therefore be positively associated with, although not necessarily causal of, less traditionally female occupational choices.

. Table 4 (MALEOCC35) shows two additional results of interest. Being Hispanic increases the chances (over a non-Hispanic white) of selecting a traditionally male occupation by eight percentage points. We cannot explain this finding.

Finally, if the respondent believes that the significant other would approve if she enlisted in the armed forces, she is *less* apt to select a traditionally male occupation.[24] The effect is small, reducing the probability of choosing a traditionally male occupation by .04. However, of interest here are the relationships among expected approval of enlistment, enlistment expectations,[25] and occupational preferences at age 35. The military is a male institution—even occupants of military jobs that may be traditionally female in the civilian sector are overwhelmingly male in the military. However, *exploratory analyses do not*

[24]In the TRAD35 model, MILITARY is statistically significant at p equal .10 for a two-sided test.

[25]Respondents are asked if, in the future, they think they will try to enlist. The four response options range from "Definitely will try to enlist" to "Definitely will not try to enlist."

support an assumption that military enlistment for girls represents a traditionally male occupational choice.

Cross-tabulations show that girls who report that the significant other would approve if they enlisted are much more apt to expect to enlist. They also show that girls who expect to enlist are more likely to say that they would choose a traditionally female occupation when they reach age 35 and are no more likely to select a traditionally male occupation. The positive sign on the MILITARY coefficient for TRAD35 and the negative sign for MALEOCC35 are consistent with the cross-tabular results. However, since enlistment preferences do not enter the models, we do not know if the cross-tabular relationship of enlistment expectations and occupational choices at age 35 would survive multiple controls.

The effect of MILITARY on girls' occupational preferences raises questions about the relationship of enlistment expectations to girls' long term labor force and occupational plans. These questions cannot be resolved within the resource limits of the project. However, in our subsequent discussion of retention in nontraditional jobs, we note the potential contribution of the armed forces to the gender desegregation of *civilian* occupations. How enlistment relates to the family, labor force, and long term occupational plans of girls who plan enlistment will affect the rate and nature of the military's desegregation efforts.

Boys' Occupational Choices

As we have already pointed out, unlike girls, boys' marital and parenting expectations do not affect the traditionality of their occupational choices. Higher basic skill scores (ASVAB1) push both boys and girls toward choices atypical for their gender—girls toward and boys away from traditionally male occupations. Being a high school dropout pushes both girls and boys away from occupations that are more traditionally female.

A cross-tabulation of household structure and occupational choice shows that boys in a female-headed household are more apt to select mixed and less apt to select traditionally male jobs than boys in intact families. However, unlike girls, this variable does not affect occupational choice for boys independent of the other variables in the TRAD35 model. At the same time, unlike girls, the MOM TRAD WORK variable is statistically significant. Relative to mothers who do not work, mothers who work in traditionally female jobs increase the percent female of their sons' preferred occupation by three points.

Although ED EXPECTATIONS negatively affects TRAD35 for girls, it has no effect for boys. This finding is consistent with our

theoretical expectations. Historically, work/family conflicts have not constrained either men's occupational choices or the educational expectations implied by these choices. Thus, while boys' educational expectations and the skills required by their occupational preferences should be positively related, we would not expect a positive relationship between their educational expectations and the traditionality of their occupational preferences.

The MILITARY variable is statistically significant for both boys and girls in both the TRAD35 and MALEOCC35 models. The signs on MILITARY are also the same for the two sexes: positive for TRAD35 and negative for MALEOCC35. Thus, if boys believe that the significant other would approve of their enlisting, they select occupations at age 35 that are less traditionally male than boys who expect disapproval.

However, the cross-tabular relationships among the significant other's attitude toward enlistment, enlistment preferences, and the traditionality of the occupational preferences at age 35 differ by gender. Approval dramatically increases boys' propensity to enlist—from 20 to 60 percent—but a propensity to enlist shifts occupational preferences at age 35 in the traditionally *male* direction. Again, we do not know how multiple controls would affect the relationship of enlistment preferences and the traditionality of occupational preferences at age 35. As for girls, the place of enlistment in boys' long term occupational goals is unclear.

SUMMARY AND CONCLUSIONS

Summary. We predicted that how high school girls expect to allocate their time in adulthood between the labor force and work in the home is key to the traditionality of their occupational preferences at age 35. We expected most other factors, although they might have an independent, direct effect on occupational choice, to affect the occupational decision indirectly through their effects on the work/home decision. We confirmed these hypotheses for different forms of the dependent variable and with ordinary least squares regression and logit models. As girls increase their planned commitments to the labor force relative to the home, the traditionality of their occupational choices decreases and the chances of choosing traditionally male occupations increase. Marital and parenting expectations affect the gender typicality of the occupational choices of high school girls, but not of boys.

For girls committed to the labor force, earlier studies suggest an interaction between the socio-economic status of their families and the

traditionality of their occupational choices. Specifically, these studies suggest that, for girls committed to the labor force, working class girls are more apt to select traditionally female occupations—albeit those with relatively high status—than middle and upper middle class girls. Our results do not confirm this hypothesis: the interaction observed in earlier studies does not survive the multiple controls of regression models.

We tested several hypotheses about factors which affect girls' commitment to the labor force. Since ability is rewarded in labor markets, but not necessarily in marriage markets, we predicted that higher ability women are more likely than lower ability women to plan continuous labor force participation and therefore to select a traditionally male occupation. The analyses strongly confirm this hypothesis: each point increase in the scale of verbal and quantitative skills reduces the traditionality of the selected occupation by six percentage points.

The literature on the intergenerational transmission of behaviors and attitudes indicates the importance of the "lessons of the mother's life" for daughters' home, labor force, and occupational choices. We expected that a daughter's negative appraisal of her mother's choices would produce choices different from those of her mother's; a positive appraisal, a repeat of her mother's choices. Since we did not have measures of daughters' appraisals of their mothers' choices, we could not test these hypotheses directly. However, we could test hypotheses that these ideas imply.

Assuming that blue collar and service occupations are more likely to represent unattractive work situations, we predicted that daughters of mothers employed in these occupations would be less likely to plan to repeat their mothers' labor force and occupational choices than daughters of mothers in white collar occupations.

We could not predict the direction of the effect of mothers' occupations on their daughters' choices. Daughters could respond to their mothers' work situation by reducing their commitment to the labor force—tilting them in a traditionally female occupational direction—or by rejecting their mothers' usually traditionally female occupations, tilting them in a traditionally male direction.

Although we find that girls whose mothers work in blue collar occupations have a 8 percent greater chance of selecting a traditionally male occupation, we find no effect for service occupations and no effect for service or blue collar occupations on the continuous form of the dependent variable. We do not consider the hypothesis confirmed or well tested, although the test may have been the best that we could do with our data base. For example, the fact that we could not theoretically predict the direction of the effect of mothers' occupations on their

daughters' choices allows respondents to differ in their responses to their mothers' choices. Opposing effects cancel one another, leaving no net effect in either direction.

A second test of the intergenerational transmission of behaviors involved family structure. We predicted that living in a female-headed, as opposed to an intact, household would predispose daughters toward traditionally male occupations.

Estimates for both the linear form of the dependent variable and for the categorical form confirm this hypothesis. All else equal, being in a female-headed household at age 14 decreases the traditionality of girls' occupational choices by six percentage points and increases the chances of choosing a traditionally male occupation by 8 percent.

Conclusions. These analyses suggest that changing young women's occupational choices requires changing their expected time allocations to the labor force and the home. Policies that address the occupational choice alone—i.e., without addressing labor force and home choices—should have limited effects.

The effect of female-headed households on occupational choice is important in two ways. First, it indicates the intergenerational transmission of behaviors and attitudes and highlights the importance of understanding how mothers' home, labor force, and occupational choices and attitudes affect those of their daughters. Second, the major changes in family structure in this country may eventually generate a change of similar magnitude in the educational, labor force, and occupational choices of our young women.

In the next section, we extend our analysis of decisionmaking about occupations to women's and men's choices about remaining in jobs that vary in their gender typicality. We examine these turnover decisions for those employed in the civilian *and* the military sectors.

III. TURNOVER FROM NONTRADITIONAL OCCUPATIONS IN THE MILITARY AND CIVILIAN SECTORS

FEMALE TURNOVER

Introduction

This section presents our analysis of women's decisions to stay with or leave an employer and how they depend on the characteristics of the woman, her working conditions, and her occupation. This examination of job turnover in the short run allows us to add another part to the picture of women's occupational choice—her decisions *after* her entry into the labor force but early in her career. Here, we focus on the effects of the sex composition of the occupation the woman holds on the chances that she leaves her employer during the year. Thus, we can test the general notion, discussed below, that women tend to leave stereotypically male jobs at higher rates than they leave stereotypically female jobs. An interesting and important elaboration of this question—which we do not pursue here—asks whether women tend to migrate toward jobs more traditional for their sex over the course of their careers.

Our analysis of women's retention in traditionally male jobs has important policy and theoretical implications. As we discussed earlier, segregation of women into a small number of occupations has been identified as an important source of women's lower earnings than comparable male workers. Access to and retention in a larger number of occupations—especially those professional, managerial, craft, and operative occupations usually held by men—could improve women's earning ability. The military provides an important testing ground for some of these ideas because of its recent concerted effort to integrate women in the Services into all occupations not closed to them by law. Because the military not only gave women access to jobs usually considered "men's jobs," but provided strong incentives for them to take these jobs, women in nontraditional occupations in the military may have different characteristics and career plans than those in nontraditional occupations in the civilian sector. For this reason, the analysis presented here examines women's experiences with both civilian and military employers.

This analysis draws on the conceptual framework presented earlier by focusing on women's re-choice of her occupation. In addition, we

examine the effect of events that mark transitions in the life cycle, especially marriage and the birth of a child, on women's employment decisions. In a later section, we present a parallel analysis of job turnover for young men; this analysis provides us with a reference point for interpreting the effects of characteristics of the individual and the job on turnover of women.

We base our hypotheses about the effects of demographic characteristics of the woman, her occupation, and working conditions on the literatures on job turnover and occupational mobility—especially studies of racial and gender differences in quits—and on our knowledge of military occupations. We assess the effects of variations in occupational typicality on exit from the employing firm; we do not estimate the effects of differences in occupational typicality on occupational mobility within the firm. This paper only addresses the decisions to stay or to leave, not the destination decisions of those who do leave the organization. Thus, it reports the results of a classic job turnover study in the tradition of Tuma (1976), Viscusi (1980), and Blau and Kahn (1981).

We examine women's decisions to enter and stay in the military, as well as civilian firms, for five reasons. First, since the beginning of the Republic, the military has helped to integrate less enfranchised groups—e.g., recent immigrants, blacks—into the economic, social, and political mainstreams (e.g., Berryman, 1985). In this context, women's decisions to enter and stay in the military and in atypical military occupations are of concern. Although the proportion of young women who enter the military is small, the Services are quite visible, and may have an effect on national opinions out of proportion to their size.

Especially since World War II, the military facilitates economic integration by offering stable employment, health and pension benefits, and veteran benefits (e.g., education, attractive mortgage rates, veterans' preference points in civil service jobs). It confers social respectability by offering its members legitimate and respected careers. Finally, it can extend the political franchise. Like most Western nation states, the United States has an implicit social contract that links military service and full citizenship (e.g., Feld, 1975). Just as citizenship rights imply military obligations, so military service creates citizenship rights.[1] Culturally, the nation's obligation to extend full citizenship rights is considered most binding for those groups who serve in combat. Thus, the country's verbal and legal war over whether women should be trained and used in combat can ultimately

[1]The congressional decision to reduce the voting age from 21 to 18 years at the end of the Vietnam War reflects this social contract.

be seen as a war over women's rights and obligations, not only in the military, but also in the larger society.

Second, the military has a demonstration effect for the civilian sector. Thus, the responses of enlisted women to traditionally male[2] military jobs will probably affect the form and rate of gender desegregation beyond the armed forces. The military is our national defense, commands a substantial share of the federal budget, and is the nation's largest single employer (2 million individuals in the active duty military and 1 million civilian employees). Its human resource policies and practices are therefore highly visible and publicly debated. The consequences that civilians perceive for these military policies inevitably affect civilian laws and human resource policies. For example, although civil rights legislation in the 1960s accelerated racial desegregation in the military, the desegregation already achieved in the armed forces showed its feasibility and helped to prepare the political ground for that legislation (e.g., MacGregor, 1981).

Third, the military has opened large numbers of atypical occupations to women and enlisted and trained them in these occupations. For example, in our data base 34 percent of the women in the military but only 3 percent of the women in civilian organizations worked in occupations that at the national level consisted of less than 10 percent female. Thus, the military case lets us examine the effects of more extensive gender desegregation in an organization on women's decisions to stay in atypical jobs.

Fourth, the military case may let us examine the effects of less initial information about—and perhaps less favorable initial attitudes toward—atypical occupations on women's decisions to stay or leave. Since the military recruiting commands are under some pressure to enlist women in nontraditional occupations,[3] we can assume that, on average, women who enter traditionally male military jobs will have less information about their jobs—and perhaps prefer them less—than women who select atypical jobs more freely.

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[2]In describing the gender composition of an occupation, we use several pairs of terms interchangeably: *traditionally male* and *atypical*, to talk about occupations that have small fractions of women employed in them; *traditionally female* and *typical*, to talk about occupations that employ large fractions of women; and *occupational traditionality* and *occupational typicality* to talk about the gender composition of occupations.

[3]To prevent unbalanced promotion ladders, unequal foreign tour opportunities, etc., the Services try to distribute female enlistees across the typical and atypical occupations open to them. However, women fill vacancies in the traditionally female occupations first on any given day and first during the fiscal year. Women clearly queue up for jobs in traditionally female occupations in the military, strongly suggesting that they prefer those jobs, at least on the basis of the information that they have at enlistment. Recruiters therefore have to "sell" some fraction of women enlistees on nontraditional occupations.

Finally, military enlistment lets a woman combine a traditionally female occupation with the formal and on-the-job training, higher wages, promotion opportunities, and benefits often available only in traditionally male occupations. Thus, the military case lets us observe the effects of this peculiar set of occupational opportunities on stay and leave decisions.

Hypotheses

We hypothesize the same basic relationships between turnover and individual and job characteristics for civilian and active duty military employees. In this report, we deliberately decided not to assess the implications of organizational differences between civilian firms and the military on women's stay or leave decisions. Some of the differences are registered in measures of these women's jobs, and we enter a few differences, such as the enlistment contract, as controls. However, in this paper our intent is not to hypothesize and test for differences between military and civilian organizations.

Although we posit the same basic relationships for military and civilian employees, the variables relevant to tests of the hypotheses are not always the same for the two groups. Accordingly, we specify and estimate separate models for women in the military and women in civilian firms.

1. As the nontraditionality of the occupation increases, the probability of turnover increases. Theory and fragmentary data suggest this hypothesis. All other things being equal, women have fewer performance-relevant skills and less information about traditionally male occupations.[4] This lack of performance-relevant skill and information translates into choice errors that can be corrected by occupational—and potentially, by organizational—exit. Studies (e.g., Cook and Wilkey, 1977) also indicate that women in traditionally male occupations are more apt to function in nonsupportive, if not actively hostile, work groups, a situation that should reduce the attractiveness of that occupation, at least as pursued in that organization.

Occupational choice in the civilian sector seems to be a fairly straightforward concept, and for women employed in civilian firms we measure nontraditionality by the percent female of the woman's three digit Census occupational code. However, for women in the military the concept of occupational choice is more complicated. *De facto,* women who enter the military make three choices: choice of the

[4]For example, holding educational attainment constant, women applicants to the military score less well than their male counterparts on tests of electronic and mechanical knowledge.

military versus civilian sector, choice of the military branch (Army, Navy, Marine Corps, or Air Force), and choice of an occupation within the branch, e.g., flight operations, signal intelligence.

Enlistment is commonly assumed to represent a traditionally male occupational choice. However, as indicated earlier, women can enter traditionally female occupations in the military, e.g., secretary or medical technician. Thus, they may select military service in order to combine a traditionally female occupation with the rewards often available only in traditionally male occupations. A woman may not see this kind of job decision as a traditionally male occupational choice. In fact, exploratory analyses reported earlier suggest that military enlistment for girls does not represent a traditionally male occupational choice—those who believe that the significant other they mention would approve if they enlisted in the armed forces are *less* apt to expect a traditionally male occupation when they are age 35.

In sum, assessing the traditionality implications of entry into and exit from military service ultimately requires determining how the civilian population evaluates the traditionality of military enlistment, the four military branches, and alternative military occupations. It also requires determining how these evaluations vary, depending on various branch and occupation combinations.

In the analyses reported here, we assess only the effects of branch and military occupation on exit. Since stereotypically the Marine Corps seems to be the most traditionally male of the four military branches, and since women make up a substantially smaller proportion of the enlisted force (4.5 percent in 1981 versus 11.5 percent in the Air Force) and the officer corps (2.9 percent versus 9.2 percent in the Air Force) of this branch than of any of the others (Lein, 1982), we predict a positive effect of a Marine Corps enlistment on turnover. As we discuss in more detail later, we define the traditionality of the military occupation by creating a crosswalk between Department of Defense occupational codes and the Bureau of the Census three digit occupational codes. We predict that military occupations defined in the crosswalk as traditionally male will increase women's exit from the military.

2. *The greater the mismatch between characteristics of the job and characteristics of the woman, the higher the probability of turnover.*[5]

[5]We also hypothesize that the effect of mismatches on turnover will be greatest early in job tenure. Turnover that occurs early in job tenure is generally interpreted as a rapid response to employee and job mismatches. In the initial months of employment new employees gain additional information about the job; employers, additional information about new employees. Errors tend to be corrected before either party has invested much in the other (e.g., Tuma, 1976; Viscusi, 1980). Thus, not only do we predict positive

Controlling on job tenure, we expect more turnover among those with erroneous job expectations. This group includes individuals with less general labor market information—i.e., younger workers,[6] those with less education, and those with less general knowledge about occupations. It also includes those who may know less about the specific occupation prior to their entry into it, i.e., those in atypical occupations, and, by extension, those in potentially the most traditionally male military branch (Marine Corps versus all others).

We predict more mismatches and thus higher turnover for high school dropouts. Dropouts have ability and personality deficiences that trigger early school exit (e.g., Bachman, Green, and Wirtanen, 1971) and that probably account for their higher probabilities of early exit from institutions other than schools (e.g., from the military).

The sociological and social psychological literatures (e.g., Simmel, 1950; Kanter, 1975, 1977; Taylor and Fiske, 1976; Taylor et al., 1978; Taylor et al., 1979; Taylor, 1981) indicate that if a group member differs from the majority of group members in an important status characteristic such as sex, race, or ethnicity, this individual encounters greater match problems than someone in groups whose members share their characteristics. Thus, we predict that women in work groups composed primarily of men will exit at higher rates than those in groups with a more balanced sex ratio. We also predict that women in traditionally male occupations and in work groups with higher fractions of men will exit at higher rates than: (a) women in traditionally male occupations but in work groups with lower fractions of men, or (b) women in work groups with higher fractions of men but in traditionally female occupations.[7]

3. The less attractive the current job, the higher the probability of turnover. This hypothesis derives from our conceptual framework, which sees individuals as continually chosing and revising their choices to obtain the best match of their interests and skills with a job, and the results of empirical studies (e.g., Tuma, 1976; Viscusi, 1980; Blau

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effects of the mismatch measures on turnover; we also expect that these variables will have stronger effects earlier than later in job tenure. Consistent with the findings of Tuma (1976) and Viscusi (1980), our data in fact show a much higher turnover probability earlier in job tenure. However, we did not test our hypothesis by interacting job tenure with the mismatch variables because respondents did not vary that much in job tenure—most had been in their jobs a relatively short time.

[6]Tuma (1976) finds that when job duration is controlled, mobility rates still depend on age for those 16 to 22 years, but not for those over 22 years of age.

[7]This reasoning also leads us to predict that black (or Hispanic) women in work groups composed predominantly of nonblacks (non-Hispanics) will exit at higher rates than those in groups with more balanced racial or ethnic ratios. However, since this report focuses on the effect of occupational composition on women's job behavior, we provide only preliminary tests of this hypothesis about the effect of race and ethnicity.

and Kahn, 1981; Osterman, 1982). This hypothesis and Hypotheses 4 and 5 address the attractiveness of three of a young working woman's major alternatives: staying in her current job, leaving for school, or leaving for work in the home. Hypotheses 6 and 8 address the probability that she will locate another job that is more attractive than her current job.

We measure attractiveness of the current job with two kinds of variables: job characteristics that presumably affect a job's attractiveness to the average woman, such as hourly wage or number of benefits, and respondent attitudes toward the job. The first set of variables includes the shift of the job, the commute time between home and work, the availability of specific benefits, the presence or absence of union representation, hourly wages, eventual wage payoffs (as indicated by the national female median wage in the respondent's three digit occupation), and mobility opportunities within the firm (as indicated by the size of the firm and the number of separate establishments).[8] It also includes measures of the respondent's firm-specific human capital and measures of mismatch between the respondent's sex, race, or ethnicity and the predominant gender, racial, or ethnic composition of her work group.

The second set (respondent attitudes toward the job) includes the respondent's assessment of the job's significance, the number of its extrinsic rewards, its danger, and the attractiveness of her work group. It also includes a measure of her satisfaction with the job at the baseline survey year.

4. The more attractive additional schooling, the higher the probability of turnover. We test this hypothesis with a measure of educational aspirations.

5. The more attractive work in the home, the higher the probability of turnover. We assume that a woman could prefer work in the home for economic or logistical reasons (e.g., high cost or absence of adequate child care) or because her values and beliefs support home over paid work.

We measure the attractiveness of work in the home by modeling the implications of the respondent's mother's work behavior, what the respondent wants to do at age 35 (work in the labor force versus in the home), whether the respondent thinks it appropriate for wives to work, and what benefits she thinks a working wife brings to the family.

We also include measures of life-cycle transitions that may increase the attractiveness of full-time work in the home. These include

[8]Blau and Kahn (1981) predicted and found that higher hourly wages and greater median wages for females in the occupation reduced quits for black and white women. They also found that belonging to a union reduced quits for white women.

whether the respondent has married or borne a child between the baseline survey year and the year in which we measure turnover. We assume that marriage between the two surveys might not only increase the value of work in the home, but might also give the respondent an economic alternative to labor force participation. The birth of a child could make work in the home more attractive for economic, logistic, or preference reasons.

6. The greater the woman's informational, motivational, and financial resources, the higher the probability of turnover. We hypothesize that a woman with more resources is more likely to locate, to be offered, and to be able and willing to try another job that appears more attractive than her current job. We have three specific hypotheses about resources.

6a. The greater the woman's labor market information, the higher the probability of turnover. We reason that a woman with more labor market information is more likely to know of other jobs. We measure labor market information by the respondent's family socio-economic status, her education,[9] and her general knowledge of occupations.

6b. The greater the woman's willingness to exercise control over events, the higher the probability of turnover. We hypothesize that a woman who believes that she exerts influence over events is more likely to take advantage of a job opportunity that seems preferable to her current job. We measure this belief by the respondent's score on the Rotter (Internal/External Control) scale.

6c. The greater the woman's financial resources net of her wages, the higher the probability of turnover. We hypothesize that financial resources independent of her wages makes it easier for a woman to absorb the transaction costs associated with a move from a current to a subsequent job. We use measures of family income net of the respondent's wages and of family assets to represent financial resources.

7. The greater the woman's informational, motivational, and financial resources, the greater the effect that dissatisfaction with a job at time t will have on the probability of turnover at time t + 1. Although we assume that resources will have a positive effect on turnover regardless of satisfaction with current job, we also assume that as resources increase, the effect of job dissatisfaction on turnover will increase. We

[9]Viscusi (1980) and Blau and Kahn (1981) find positive effects of education on female quits. Tuma (1976) finds that job mobility rates increase as the individual's education and socio-economic level of family background increase. We posit that education and family background positively affect turnover in two ways: by their effects on labor market information, i.e., on knowledge of job alternatives, and by their effects on employers' demand for the individual's labor (see Hypothesis 8).

test this hypothesis by interacting the measure of job satisfaction with the various resource measures described for Hypotheses 6a, 6b, and 6c.

8. The greater the number of labor market alternatives available, the higher the probability of turnover. We assume that the demand for a respondent's labor in a given market is a function of: (1) the market's general demand for labor, as measured by the unemployment rate in the local labor market, (2) the occupational diversity of demand, as measured by whether the respondent lives in a Standard Metropolitan Statistical Area (SMSA), and (3) the demand for the respondent's labor, as measured by her observable general human capital and by status characteristics that affect her return on that human capital.

We measure observable human capital by years of education; general knowledge of occupations; work persistence, as indicated by possession of the high school diploma; and "mainstream" presentation of self, as indicated by the respondent's family socio-economic status. We measure a woman's return on her human capital by race, ethnicity, and immigrant status variables. These variables also may signal characteristics that influence the amount of labor market discrimination to which the individual is subjected and thereby influence the return that they receive on their human capital.

Data, Variable Definitions, and Structure of the Analysis

Our analysis uses data from the *National Longitudinal Survey of Youth Labor Market Behavior* (NLS), as described in Sec. II. The respondents in the NLS were reinterviewed approximately one and two years following the initial interview with excellent retention of the original sample. Ninety-six percent of those interviewed in 1979 were reinterviewed in 1980, and ninety-seven percent of the original sample were reinterviewed in 1981.

The NLS Youth Cohort constitutes the only contemporary data set with a large enough sample of women and men in the military and civilian sectors to support comparative analysis. The sample includes 457 women on active duty in 1979, plus almost 6000 other women 14 to 21 years old. The military sample for men is larger than that for women, whereas the civilian sample is about the same size. The comparable information obtained from the military and civilian samples facilitates parallel analyses for the two sectors.

Our analysis of job turnover among young women and men uses a subset of the NLS data. We restrict our sample to those at least 16 years old in 1979 who stated that employment constituted their primary activity during the survey week; we eliminate those enrolled in high school or in college full time at the initial interview. This allows

us to examine job choices of young women and men who were making employment decisions with possible implications for their long-run career development. Approximately 1077 young women and 1376 young men fit our sample criteria in 1979 for the civilian sector analysis; all of those on active military duty were included in our analysis of that sector. (The characteristics of the samples for the two sectors are given later in this section in Table 6 for women and Table 8 for men.)

Use of the NLS Youth Cohort has drawbacks as well as substantial advantages for testing our hypotheses. The most obvious drawback is the age distribution of the respondents. We focus here on the early stages of the process through which young adults enter careers; our analysis cannot address issues of career choice or advancement for those older than their early twenties. Our decision to include only postschool occupational choices allows us to focus on job decisions with substantial long-run implications, but it also means that our results apply primarily to young adults who do not go straight from high school to college for four years. Thus, our sample allows us to discuss the job turnover of young adults with less than a college degree.

Our focus on the occupational choice and retention decisions of young adults is appropriate for several reasons. First, entry into a first occupation after school influences later career achievements (Ornstein, 1976). Second, more job switching takes place early in careers, when individuals are trying to match their skills and interests with those of an occupation, than later when people have acquired substantial occupation-specific capital. Thus, we focus on a period of occupational turbulence during which important career decisions are taking place.

This analysis examines the determinants of job turnover among young women and men over a one-year period. We begin with those employed at the initial survey in 1979. Those who no longer work for their 1979 employer at the 1980 interview receive a code of one on our measure of job turnover; those still working for that employer, a code of zero. The analysis of military turnover begins with those on active duty in one of the four branches of the military in 1979. Those no longer on active duty one year later receive a code of one on the job turnover measure; those still on active duty, a code of zero. This measure of job turnover for both the civilian and military sectors ignores job changes which take place while the person is working for the same employer. We do not include changes of Military Occupational Specialty or changes of job description that do not involve leaving the

employer. We leave analysis of this more detailed measure of occupational mobility for another study.

Our definition of turnover does not distinguish between voluntary and involuntary job exits. Several considerations prompt this choice. First, the reason the respondent left the job is reported by the respondent and thereby subject to bias. Respondents may report firings as quits to give a more socially acceptable response. Second, the line between firings and quits and between layoffs and quits can be quite fine. An employee whose boss finds her work unsatisfactory may quit in anticipation of being fired or may receive warning to leave or be fired. Those facing layoff may search for another job for that reason.[10]

We model job turnover over a one-year period as a function of (1) personal and family characteristics of the young woman; (2) her educational and economic resources; (3) her attitudes and plans; (4) changes in her family status over the year; (5) characteristics of her job at the beginning of the period; and (6) characteristics of the local labor market. The models of job turnover for the military and civilian sectors contain the same independent variables to the extent possible. However, some job characteristics apply only to a single sector—branch of the service has no civilian counterpart, no military enlistee receives union representation, and only those in the military have an enlistment contract. In these cases our model contains different variables in the military and civilian sectors.

Table 5 presents the names of all the variables used in the model, grouped into the categories listed above, plus the coding of each variable. Table 6 gives the means and standard deviations for all these variables for the civilian and military samples.

Most of the measures are straightforward and require no explanation. However, we constructed several scales that the next section describes briefly. The measures SEXROLE1 and SEXROLE2 result from our factor analysis of a series of seven items measuring the respondent's attitudes about the proper roles of men and women and the consequences of the employment of a wife. The variables EXTRINSIC REWARDS, JOB HAZARDS, and WORK GROUP also derive from a factor analysis of a series of nine items measuring the respondent's perceptions of the characteristics of her job. The other scales listed in Table 5 are simple additive scales, except CONTROL which weights each response on the internal/external locus of control scale by the strength with which it is held.

[10]See Stolzenberg and Winkler, 1983, for a summary of arguments about the wisdom of distinguishing voluntary and involuntary terminations. See also Bartel and Borjas, 1977.

Table 5

NAMES AND DEFINITIONS OF VARIABLES FOR ANALYSIS OF JOB TURNOVER OF YOUNG WOMEN

Variable Name	Variable Definition
Turnover	(D)[a] Respondent no longer working for her 1979 employer as of 1980
Job Traditionality	
FEMALE OCC	(D) Respondent's Census three digit occupation ≥ 90% female (civilian)
	(D) Respondent's Census three digit occupation ≥ 75% female (military)
MALE OCC	(D) Respondent's Census three digit occupation ≤ 25% female (civilian)
	(D) Respondent's Census three digit occupation ≤ 10% female (military)
PERCENT FEMALE	Percent female for respondent's occupation for civilian labor force
NAVY	(D) Respondent's branch = Navy
AIR FORCE	(D) Respondent's branch = Air Force
MARINE	(D) Respondent's branch = Marines
Job Mismatch	
AGE	Respondent's age at 1979 interview
HS DIPLOMA	(D) Respondent has high school diploma
EDUCATION	Education (years completed)
KNOWLEDGE WORK	Knowledge of work (scale 0–9, 9=high)
Job Attractiveness	
Job Characteristics	
LOG WAGE	Log of respondent's hourly wage (1979$)
SHIFT	(D) Work shift other than day
TRAVEL TIME	Minutes from home to work
BENEFITS	Benefits (scale 0–3, 3=paid vacation + life insurance + health insurance)
UNIONIZED	(D) Wages set by collective bargaining
MEDIAN WAGE	National median weekly wage in 1980$ of female workers in respondent's three digit occupation

Table 5—continued

Variable Name	Variable Definition
Job Attractiveness (continued)	
LOG FIRM SIZE	Log of establishment size
MULTI SITE	(D) Respondent's employer has establishments at > 1 location
LOG TENURE	Log of months in current job
TRAINING	(D) Respondent received ≥ 4 weeks formal school training
OJT	(D) Respondent received ≥ 4 weeks on-the-job-training
Attitude Toward Job	
DISSATISFIED	(D) Respondent somewhat or very dissatisfied with current job/military branch
JOB SIGNIFICANCE	Respondent perceives job as significant
EXTRINSIC REWARDS	Scale of respondent's perception of extrinsic rewards—e.g. pay—of current job (higher score = higher rewards)
JOB HAZARDS	Scale of respondent's perception of hazards of current job (higher score = more hazards)
WORK GROUP	Scale of respondent's appraisals of co-workers and boss (higher score = more positive appraisals)
Attractiveness of Alternatives	
ED ASPIRE	Educational aspirations (years)
MOM WORK 14	(D) Mother worked when respondent was age 14
WORK 35	(D) Respondent wants to work at age 35
SEXROLE1	Sex role attitudes 1: Home/work conflict (high=traditional)
SEXROLE2	Sex role attitudes 2: Benefits to family from wife's work (high=pro work)
MARRIAGE	Respondent married between 1979 and 1980 interview
BIRTH	Child born between 1979 and 1980 interview
Resources	
MOM'S EDUCATION	Mother's education (years completed)
DAD'S EDUCATION	Father's education (years completed)
DAD WHITE COLLAR	(D) Father's occupation=white collar
DAD CRAFT	(D) Father's occupation=craft

Table 5—continued

Variable Name	Variable Definition
Resources (continued)	
Locus of Control	
CONTROL	Locus of control (scale 0–16, 16=internal control)
Financial	
ASSETS	Respondent's family assets (scale 0–3, 3=car + home + savings)
FAMILY INCOME	Respondent's family income net of respondent's wages
Labor Market Alternatives	
SMSA	Population concentration (scale 0–3, 0=not in SMSA, 3=SMSA, central city)
UNEMPLOY RATE	1979 unemployment rate (scale 1–6, low to high)
BLACK	(D) Respondent black
HISPANIC	(D) Respondent Hispanic
FOREIGN LANG	Foreign language spoken in home when respondent was child
Controls	
SOUTH 14	(D) Respondent lived in south at age 14
URBAN/RURAL 14	Urban/rural residence of respondent at age 14 (scale 1–3, 1=town or city to 3=farm)
NO MOM	(D) No mother/stepmother present when respondent was age 14
NO DAD	(D) No father/stepfather present when respondent was age 14
FULL TIME	(D) Respondent works full time (≤ 35 hours per week) three digit occupation
CONTRACT ENDS	(D) Enlistment contract ends between 1979 and 1980 interview

[a](D) = dummy variable

Table 6

MEANS AND STANDARD DEVIATIONS FOR VARIABLES, CIVILIAN AND MILITARY SAMPLES, FOR ANALYSIS OF JOB TURNOVER OF YOUNG WOMEN

Variable	Civilian Sample		Military Sample	
	Mean	Standard Deviation	Mean	Standard Deviation
Turnover	0.549	0.498	0.210	0.408
Job Traditionality				
FEMALE OCC	0.308	0.462	0.278	0.449
MALE OCC	0.084	0.277	0.278	0.449
PERCENT FEMALE	0.718	0.269	0.462	0.329
NAVY	—	—	0.142	0.350
AIR FORCE	—	—	0.311	0.463
MARINES	—	—	0.065	0.246
Job Mismatch				
AGE	19.647	1.331	19.974	1.093
HS DIPLOMA	0.774	0.419	0.939	0.241
EDUCATION	11.835	1.446	12.013	0.679
KNOWLEDGE WORK	6.379	1.940	7.395	1.537
Job Attractiveness				
Job Characteristics				
LOG WAGE	1.180	0.401	1.153	0.271
SHIFT	0.299	0.458	0.285	0.452
TRAVEL TIME	16.769	13.050	11.528	12.715
BENEFITS	1.743	1.196	—	—
UNIONIZED	0.121	0.326	—	—
MEDIAN WAGE	175.281	38.233	—	—
LOG FIRM SIZE	3.505	1.757	—	—
MULTI SITE	0.604	0.489	—	—
LOG TENURE	2.036	1.015	2.920	0.545
TRAINING	—	—	0.786	0.411
OJT	—	—	0.440	0.497
Attitude Toward Job				
DISSATISFIED	0.141	0.349	0.411	0.492
JOB SIGNIFICANCE	3.287	1.259	3.524	1.199
EXTRINSIC REWARDS	0.165	0.628	0.067	0.602
JOB HAZARDS	0.052	0.661	0.275	0.791
WORK GROUP	0.134	0.653	0.188	0.567
Attractiveness of School and Home Alternatives				
ED ASPIRE	13.958	2.031	15.505	1.617
MOM WORK 14	0.518	0.500	0.563	0.497
WORK 35	0.780	0.414	0.845	0.363

Table 6—continued

Variable	Civilian Sample Mean	Civilian Sample Standard Deviation	Military Sample Mean	Military Sample Standard Deviation
Attractiveness of School and Home Alternatives (continued)				
SEXROLE1	0.082	0.990	-0.328	0.881
SEXROLE2	–0.011	0.971	–0.032	1.044
MARRIAGE	0.107	0.309	0.194	0.396
BIRTH	0.053	0.224	0.078	0.268
Resources				
Labor Market Information				
MOM'S EDUCATION	10.890	2.735	11.629	2.346
DAD'S EDUCATION	10.806	3.592	11.476	2.958
DAD WHITE COLLAR	0.220	0.414	0.285	0.452
DAD CRAFT	0.239	0.427	0.285	0.452
Locus of Control				
CONTROL	11.541	2.532	12.188	2.461
Financial				
ASSETS	1.339	0.836	1.478	0.627
FAMILY INCOME	2370.608	4537.634	1238.424	2924.053
Labor Market Alternatives				
SMSA	1.305	1.068	—	—
UNEMPLOY RATE	2.504	0.716	—	—
BLACK	0.171	0.377	0.184	0.388
HISPANIC	0.129	0.335	0.323	0.177
FOREIGN LANGUAGE	0.199	0.400	0.133	0.340
Controls				
SOUTH 14	0.333	0.472	0.330	0.471
URBAN/RURAL 14	.290	0.574	1.243	0.518
NO MOM	0.041	0.199	0.032	0.177
NO DAD	0.117	0.322	0.117	0.321
FULL TIME	0.815	0.389	—	—
CONTRACT ENDS	—	—	0.152	0.360

NOTE: — = not available for this sample.

Two variables required transformation—job tenure and wage. After some exploration with various functional forms, we applied log transformations to each as the best approximation of the shape of the relationship with turnover.

We measure our central predictor variable, sex traditionality of the occupation, as the proportion female in that Census three digit occupation in 1979. Since military occupations receive a code unique to the

armed forces, we constructed a crosswalk of the DoD occupational codes and civilian occupations. The measure of traditionality of military occupations refers to proportion female in the most comparable occupations in the civilian labor force. For a large number of military occupations this involved taking weighted averages of the proportion female in a number of Census occupational categories included in one DoD occupational code.[11]

We index sex traditionality for women in the military with proportion female in the civilian sector because we believe that cultural definitions of job traditionality as defined by civilian society affect the initial job choice of young women enlisting in the military, the responses of the young woman and her coworkers to her performance on the job, and her perception of her eventual prospects for a civilian sector job in that occupation.

We experimented with various functional forms of the traditionality variable, including a series of dummy variables and linear variables that measures proportion female and ranges from 0.0 to 1.0. We could find no form which fit better than any other, none of them fitting very well. Since we hypothesize that traditionality affects job retention most when it becomes extreme, we created three categories of job traditionality: traditionally female occupation; mixed occupation; and traditionally male occupation.

The definitions of these variables differ for the military and civilian sectors because of the large difference between them in the distribution of workers by our linear measure of traditionality. For example, 34 percent of women in the military but only 3 percent of those in the civilian sector hold jobs in which 10 percent or less of the national labor force is female. At the other end of the scale, 28 percent of the civilian workers but only 3 percent of the military workers hold jobs which have 90 percent or more female in the civilian work force.

To have enough cases in each of the categories of traditionality, we defined male and female occupations somewhat differently in the military and civilian sectors. For the military cases, we defined an occupation as traditionally female if its civilian counterpart had a work force which was 75 percent or more female and as traditionally male if it had 10 percent or less female. For the civilian sector cases, we defined occupations as traditionally female if their work force was 90 percent or more female and as traditionally male occupations with 25 percent or less female. We should point out that the findings of our analysis

[11]We received substantial assistance in this task from personnel in the Office of the Assistant Secretary of Defense for Manpower, Installations, and Logistics. The interested reader may obtain details on this crosswalk from the authors.

are relatively insensitive to these minor changes in definition of the variable.

Our analysis treats missing data in turnover models in the same way as in the choice models. As the dependent variable in this analysis receives codes of only zero or one, we estimated all equations using logit, a maximum-likelihood technique appropriate for the analysis of dichotomous dependent variables (Goodman, 1976). To make the results easier to interpret, we transform the estimates of log odds coefficients by multiplying each by $(P)(1 - P)$, where P is the mean of the dependent variable (see Hanushek and Jackson, 1977). These transformed coefficients can be interpreted in the same way as regression coefficients—they show the estimated effect of a one-unit change in an independent variable on the probability of job turnover, evaluated at the sample mean.

Results

The young women in our sample from the NLS exhibit a very high rate of job turnover, as shown by the means for this variable in Table 5. The text table below shows the 1980 outcome for those young women whose primary activity was employment at the 1979 interview.

CHIEF ACTIVITY AT 1980 INTERVIEW OF THOSE EMPLOYED AT 1979 INTERVIEW

Chief Activity	Number	Percent
Employed	796	74.0
Same job	477	44.3
Different job	319	29.6
Looking for work	29	2.7
Keeping house	143	13.3
Going to school	48	4.5
Unable to work	5	0.5
Other	56	5.2
Total	1077	100.2

Of those who remained employed at the end of the year, 60 percent still worked for their 1979 employer. Thus, 44 percent of those employed in 1979 remained at work and at their 1979 job; 30 percent changed jobs; and 26 percent were not employed by 1980.

Table 6 shows much lower rates of job turnover among young women on active military duty in 1979. Twenty percent left the service

between 1979 and 1980, less than half as many as left their civilian employer over the same period.

Table 7 presents logit coefficients for the most detailed models of job turnover for both the military and civilian sectors. These models contain a sizable number of predictors of job turnover, and are estimated on samples of 778 cases for the civilian sector, and 309 cases for the military. This case base is more than adequate for the former, but rather modest for the latter. In spite of the large number of independent variables and the modest case base for the military, in neither sample do we find evidence of any problems from sample size; the coefficient estimates fall within reasonable bounds, and none of the standard errors are so large as to suggest problems. We restrict our substantive interpretation of coefficients to those about twice their standard errors or larger to minimize problems from unstable coefficients due to small sample size. In addition, we explore the correlations between all variables in the models and find no evidence of multicollinearity. The highest correlation we observe between independent variables is .71 for FOREIGN LANGUAGE and HISPANIC. This correlation is quite reasonable given the definitions of the measures, and is not high enough to raise concerns about collinearity.

We next discuss the results in the order in which we presented our hypotheses earlier in this paper. First, note that our first hypothesis, that women in occupations that contain predominantly male incumbents will have higher rates of job turnover than those in occupations with more female workers, is not supported by our findings; no differences appear in turnover by the proportion female in the occupation in the national labor force. The coefficients for FEMALE OCC and MALE OCC for the civilian sector both show negative signs and do not approach statistical significance. In the military the coefficients show the signs hypothesized—a negative effect on turnover of incumbency in a traditionally female job and a positive effect of being in a traditionally male job. However, in both cases the effect is quite small. We also find no effect of service in the Marine Corps on turnover. In fact, no branch of the Service appears better or worse than any other in its retention of women.

To determine the robustness of our finding on the effect of gender traditionality of the occupation on turnover, we explored various specifications of the model and of the measure of occupational typicality by sex. First, to ensure that other independent variables correlated with some aspects of job traditionality (e.g., shift work or full-time versus part-time employment) were not capturing much of the variation in the measure of traditionality, we re-estimated the model after

Table 7

LOGIT COEFFICIENTS FROM MODELS OF JOB TURNOVER OF YOUNG WOMEN

Variable	Civilian Sample		Military Sample	
	Logit Coefficient	T Ratio	Logit Coefficient	T Ratio
Job Traditionality				
FEMALE OCC	−0.0780	−1.59	−0.0993	−1.06
MALE OCC	−0.0605	−0.73	0.0123	0.13
NAVY	—	—	−0.0974	−0.81
AIR FORCE	—	—	−0.0631	−0.64
MARINES	—	—	0.1163	0.12
Job Mismatch				
AGE	−0.0514	−2.70	−0.0549	−1.25
HS DIPLOMA	−0.1374	−1.86	−0.0037	−0.02
EDUCATION	−0.0228	−0.87	0.0574	0.90
KNOWLEDGE WORK	−0.0024	−0.18	−0.0214	−0.80
Job Attractiveness				
Job Characteristics				
LOG WAGE	0.0018	0.03	0.3324	1.80
SHIFT	−0.0676	−1.35	−0.0086	−0.11
TRAVEL TIME	0.0044	2.62	0.0012	0.54
BENEFITS	−0.0905	−4.28	—	—
UNIONIZED	−0.0877	−1.30	—	—
MEDIAN WAGE	−0.0010	−1.47	—	—
LOG FIRM SIZE	−0.0022	−0.91	—	—
MULTI SITE	0.0013	1.37	—	—
LOG TENURE	−0.1320	−5.61	−0.0820	−0.91
TRAINING	—	—	−0.1501	−1.77
OJT	—	—	−0.0377	−0.48
Attitude Toward Job				
DISSATISFIED	0.1169	1.74	0.0512	0.60
JOB SIGNIFICANCE	−0.0215	−1.12	−0.0176	−0.51
EXTRINSIC REWARDS	0.0706	−1.68	0.0776	0.98
JOB HAZARDS	0.0546	1.63	−0.0019	−0.04
WORK GROUP	−0.0246	−0.67	0.0208	0.26
Attractiveness of School and Home Alternatives				
ED ASPIRE	0.0302	2.40	0.0022	0.09
MOM WORK 14	0.0305	0.69	−0.0191	−0.25
WORK 35	0.0418	0.79	0.1553	1.32
SEXROLE1	−0.0059	−0.25	0.0742	1.73
SEXROLE2	−0.0101	−0.44	−0.0230	−0.66
MARRIAGE	0.1885	2.58	0.1553	1.83
BIRTH	−0.1260	1.20	0.1721	1.34

Table 7—continued

Variable	Civilian Sample		Military Sample	
	Logit Coefficient	T Ratio	Logit Coefficient	T Ratio
Resources				
Labor Market Information				
MOM'S EDUCATION	0.0094	0.90	−0.0010	−0.06
DAD'S EDUCATION	−0.0015	−0.18	−0.0244	−1.46
DAD WHITE COLLAR	−0.0036	−0.06	−0.0687	−0.63
DAD CRAFT	0.0263	0.46	0.0595	0.64
Locus of Control				
CONTROL	−0.0005	−0.06	0.0113	0.71
Financial				
ASSETS	−0.0346	−1.13	−0.0342	−0.51
FAMILY INCOME	0.0000	1.08	0.0000	0.36
Labor Market Alternatives				
SMSA	−0.0228	−1.03	—	—
UNEMPLOY RATE	−0.0155	−0.49	—	—
BLACK	−0.0867	−1.26	−0.3305	−2.37
HISPANIC	−0.0402	0.42	0.0261	0.14
FOREIGN LANGUAGE	−0.0774	−1.03	0.2753	2.66
Controls				
SOUTH 14	0.0291	0.57	0.1564	1.86
URBAN/RURAL 14	−0.0310	−0.79	−0.0573	−0.84
FULL TIME	−0.0118	−0.19	—	—
CONTRACT ENDS	—	—	0.7779	6.35
N	778		309	

NOTE: — = not available for this sample.

reducing the number of independent variables to those of central theoretical importance.[12] Our results remained unaffected.

We also explored a linear measure of proportion female in the occupation with this simplified model and with the full model. We found no effect in the civilian sector but a significant negative effect of

[12]These simplified models included AGE, BLACK, HISPANIC, FOREIGN LANGUAGE, a combined measure of parental education, MOM WORK 14, HS DIPLOMA, EDUCATION, KNOWLEDGE WORK, ASSETS, FAMILY INCOME, ED ASPIRE, CONTROL, WORK 35, SEXROLE 1 & 2, BIRTH, MARRIAGE, LOG TENURE, LOG WAGE, FEMALE OCC, MALE OCC, DISSATISFIED, EXTRINSIC REWARDS, JOB HAZARDS, WORK GROUP, BENEFITS, UNIONIZED, LOG FIRM SIZE, and MEDIAN WAGE. The models of military turnover included, in addition, all measures of characteristics of military jobs. We thus reduced the number of variables in the models by fifteen (including three indicators of missing values).

proportion female (logit coefficient = −0.2628, t = −1.9) on the probability of turnover in the military. This result implies that moving a woman from a military occupation with 50 percent female in the civilian counterpart occupation to one with 60 percent women would lower her probability of leaving the Service over a one-year period by three percentage points. Larger or smaller changes in the traditionality of the occupation would have proportional effects on the chances of turnover. This significant effect of the linear measure, combined with our finding of no effect of being in either predominantly male or predominantly female occupations, suggests that changes toward a higher proportion female *within mixed occupations* reduce turnover for women. Plots of the relationship between turnover and proportion female in the military suggest that small and unusual categories do not account for our results.

The coefficients presented in Table 7 give general support to our hypothesis that mismatch increases turnover. We hypothesized that those with less information about the specific job when they took it would be more likely to leave the job because of poor fit between their skills and the requirements of the job. Age, education, knowledge of jobs in general, and typicality of the occupation for those of one's sex, we reasoned, may reflect the amount of information the individual has about the job and the potential for mismatch. We find that, among civilian workers, turnover decreases significantly with increasing age, controlling for job tenure, and for high school graduates relative to dropouts. However, atypicality does not raise turnover, nor does a relatively low knowledge of the world of work. Among those in the military, increased knowledge of the world of work, age, and education, which we hypothesized would decrease mismatch, have no effect. Education fails to affect turnover among women in the military primarily because rules governing enlistment require a high school diploma and virtually no variation exists in this variable for those in the Service (see Table 6).

We find no support for our hypothesis that work group composition affects job turnover. Although 43 percent of the women have a woman boss, and 72 percent of their coworkers are female, women are not more or less likely to leave their jobs because of the sex of the boss or the sex composition of their work group.[13] In addition, we included an

[13]The NLS included measures of work group composition in 1980 only. Because we think these measures potentially have important effects on the appeal of the work environment and thereby on job turnover, we wanted to include them in our analysis. To do this we estimated our model of turnover for the period 1980 to 1981, including all variables in the model used for 1979 to 1980, plus the measures of work group composition. For brevity we report in the text table below only the results for the variables

interaction of proportion female in the work group and incumbency in a traditionally male occupation. This interaction was not significant, although we suspect that little variation exists in the proportion of the work group that is female for those in traditionally male jobs. This lack of variation, if it exists, could result in the null findings here.

WORK GROUP CHARACTERISTICS

	Mean		Logit	
	$\bar{X}$	s.d.	Coefficient	t
FEMALE BOSS	0.436	0.496	0.0006	0.01
% FEM COWORKERS	0.717	0.301	-0.0157	-0.24

Our third hypothesis states that job attractiveness reduces turnover. We find effects of some but not of all our measures of the appeal of the job. In both the military and civilian sectors neither working an unusual shift nor increased travel time to the job affected turnover as we expected. For civilian workers, increased benefits, union representation, and greater eventual wage payoffs to remaining in the occupation (as measured by the national weekly median wage of female workers in the respondent's three-digit occupation) substantially reduced the chances of turnover, but only benefit levels were significant. Perhaps because these variables (plus EXTRINSIC REWARDS) capture many aspects of job "goodness" associated with high wages, wages show no independent effect. In the military many job benefits are given in kind (privileges at the commissary, housing allowances, medical care) and wages vary less than in the civilian sector; however, our measure of military pay includes housing and food allowances, and and special pays. In-kind benefits are not included. We find no effect of wages on retention in military jobs. Opportunities for advancement within the firm, as measured by firm size and multiple establishments within the firm, did not influence job retention in the civilian sector. We find an insignificant positive effect of wages on turnover in the military. Opportunities for advancement within the firm, as measured by firm size and multiple establishments within the firm, did not

unique to this year. The measures of work group characteristics available also allowed us to perform preliminary tests of our hypotheses about the effect of the racial and ethnic composition of the work group. To do this, we included in the model described above measures of the number of black coworkers and the number of Hispanic coworkers in the woman's work group, and whether the boss was black. We found no effect of any of these factors on job turnover. We also tested the effect of racial and ethnic composition of the work group for black and Hispanic women and found no effect.

influence job retention for women with civilian employers. Job tenure, a measure of the respondent's job- or firm-specific human capital, substantially reduces job turnover in the civilian sector. In fact, the coefficient for this variable is one of the largest significant coefficients in our model. The possiblity exists, however, that job tenure also reflects in part the preferences of young women for employment versus work in the home. If so, the sample of those with jobs may contain this selectivity, which may affect the results. Of the measures of human capital in military occupations, formal training (TRAINING) significantly reduces turnover but on-the-job training (OJT) has no effect. Those with four or more weeks of formal training for their current military job show a probability of leaving the Service 15 percentage points lower than do those without this training, all else equal.

The second set of variables measuring job attractiveness deals with the respondent's perception of various attributes of her job. We find that JOB SIGNIFICANCE, EXTRINSIC REWARDS, JOB HAZARDS, or WORK GROUP do not affect retention in the military. But two, EXTRINSIC REWARDS and JOB HAZARDS, significantly affect turnover in the hypothesized direction in the civilian sector. Both these effects are quite weak, however. Those in jobs with high rewards and low hazards show much lower probabilities of leaving than others. For the civilian but not the military sector, those dissatisfied at the initial survey period were significantly more likely to leave the job than those who were satisfied. The means in Table 6 show much higher rates of dissatisfaction with current branch of military service than of dissatisfaction with current job among civilian employees. We suggest that, for several reasons, the military enlistment contract reduces the effect on turnover of job dissatisfaction, hazardous work, and job significance. First, the contract means that an agreed-upon end of the job exists for the employer and employee. The fact of that agreement and the difficulty of breaking it mean that the enlistee is not as free to act on feelings about the job as a civilian employee, and might be more willing to stick it out until the contract ends. Second, those who are dissatisfied with their military occupational assignment may be able to leave it without leaving the military. Third, opinions on job hazards and job rewards in the military carry different meanings than in the civilian sector, since the nature of one's job and its importance are altered dramatically by the possibility of combat and of taking part in a war.

Our fourth and fifth hypotheses focus on the attraction to the young woman of activities which might compete with employment—schooling and full-time work in the home. Controlling for educational attainment, we find that the educational aspirations of young women

positively affect job turnover. Presumably these young women leave employment to return to school full time. We find no such effect in the military, perhaps because that institution provides access to further schooling, through veteran's educational benefits and through formal and on-the-job training received while on active duty. In both sectors, young women's educational aspirations may have affected their choice of jobs, with those planning to return to school choosing positions which fit with their educational plans.

We hypothesized that life-cycle transitions that increase the attractiveness of work in the home would raise the probability of job turnover. These points of life-cycle transition are often times when young women change their allocation of time between home and work (see Haggstrom et al., 1984), and may also prompt the woman to rethink her previous decisions about her job. Our results partially support this reasoning; a marriage during the year greatly increases turnover, but a birth has no effect net of marriage. In the military only, the coefficient for a recent birth is larger than the effect of marriage, and positive, but not significant. From 1951 to 1972, the Services could separate a woman involuntarily if she became pregnant or had a child, or if she had custody of children under 18. In 1975, the Office of the Secretary of Defense ordered the Services to cease involuntary separation for pregnancy, and to provide for voluntary release from the enlistment contract. In fiscal year 1980, about 6000 out of the approximately 160,000 enlisted women were voluntarily separated for pregnancy (Lien, 1982). Our model measures only the effect of having a birth during a year on leaving an employer over the year; for any individual woman the birth may have preceded or followed the job separation. However, relatively few women who have a child leave their jobs *after* the birth; most leave in the months of pregnancy (Haggstrom et al., 1984). We have no reason to expect that our sample differs from this pattern for either sector.

For all employed women, marriage raises the chances of job leaving by 16 to 19 percentage points, all else equal. Marriage may increase job turnover because brides move to set up housekeeping with their new husband, or they may follow him to a different location for his job. In other analyses not reported here, we tested the effects of a birth and a marriage while controlling for initial child and marital status. These additional controls had no effect on the results. Changes in status—not marriage and presence of children at the beginning of the period—affect turnover.

Our other measures of the attractiveness of home work reflect the young woman's attitudes and her role models. We find no effect of the mother's employment during the young woman's teenage years on her

later job retention, nor, in the civilian sector, of her sex-role attitudes. Whether the woman wanted to hold a job at age 35 also did not show the expected effect (although we find a significant positive effect on turnover in the military). But for women in the military, holding traditional attitudes toward sex roles significantly increases the likelihood of leaving the military.

Our sixth hypothesis relates turnover to the woman's resources. First, we examine the effects of labor market information on job leaving and find none of the hypothesized effects. The more highly educated, those from families of high socio-economic status, and those with greater knowledge of the world of work are not more likely to leave their jobs. A high degree of internal control (CONTROL) does not affect turnover, nor do financial resources (ASSETS and FAMILY INCOME).

Next, we tested our reasoning that the resources examined above affected turnover more strongly when the woman expressed dissatisfaction with her job than when she did not. We included interaction terms between DISSATISFIED and KNOWLEDGE WORK, EDUCATION, PARENTAL EDUCATION, ASSETS, FAMILY INCOME, and, CONTROL. Our results showed no significant effects of any of these terms, except FAMILY INCOME in the civilian sector. This result indicates that the probability of turnover among those dissatisfied with their job increases with family income net of their own wages.

Finally, we hypothesized that the greater the labor market alternatives available, the greater the likelihood of turnover. Our analysis showed no effects of our (admittedly weak) measures of these alternatives—SMSA and UNEMPLOY RATE.[14] Those factors which might affect the demand for the young woman's labor, and status characteristics that might affect her return on her human capital, we hypothesized, might affect turnover through affecting the alternatives available to her. For civilian workers, neither being black or Hispanic, nor coming from a household in which a language other than English was spoken, affects job leaving. But black women in the Services show substantially *lower* attrition rates than either Hispanics or whites, all else equal, whereas those raised in a family which spoke another language show *higher* attrition. We reason that young black women represent a higher proportion of the distribution of aptitude, achievement, and motivation compared to their peers than do white women.

[14]These measures appear weak to us because the unemployment rate is coded into a small number of broad categories, and SMSA measures only the urbanness of the area in which the young woman lives, not job opportunities within commuting distance from her home or other aspects of the availability and attractiveness of alternatives to her current job.

Military standards for enlistment of females require relatively high scores on the ASVAB aptitude and achievement tests, and usually require a high school diploma; note that Table 6 shows that 94 percent of the women in the military have a high school degree. These restrictions, combined with the ineligibility of single parents for military enlistment, probably mean that young black women in the military comprise the cream of the crop to a much greater degree than do white women. The barriers to employment and advancement within the military for this select group of young women are, we reason, substantially lower than they would face in the civilian labor market. Young white and Hispanic women in the military are less often selected, because relatively fewer of them are single parents, more finish high school, and they have higher average scores on the ASVAB and similar aptitude and achievement tests. If these highly selected, high aptitude young black women also see the Services as a means to upward mobility through continued school, as the means of our measure of educational aspirations suggest, then they may be both more motivated than other young women and have fewer attractive alternatives.

MALE TURNOVER

Hypotheses

In this section of this report we modify the hypotheses presented earlier for job turnover of young women to apply to young men. We use data from the NLS to create identical variables for males as we created for females, and to estimate an identical model of job turnover for the same period. This exercise allows us to compare explicitly the effects of job characteristics, especially sex typicality, on turnover during a one-year period for males and females. We present analyses of males to provide us with reference points for interpreting our findings for females. Comparison of the two sexes allows us to determine the extent to which women respond differently to working conditions and characteristics of their jobs, and the extent to which conditions and job characteristics affect young women and men in the same way.

Comparisons of identical models for young men and women allow us to answer several important questions about women's propensities to leave civilian and military employers. Popular stereotypes, which economists refer to as "stylized facts," portray women as relatively poor bets as workers because they have higher rates of absenteeism and higher quit rates than males. Simple comparisons of these rates support this stereotype (Haber et al., 1983). However, as we see below,

women and men work in very different types of jobs, and the average female worker has different characteristics than the average male worker. For example, men and women tend to be highly segregated into occupations dominated by workers of one sex or the other. Three-quarters of all employed women work in occupations in which the majority of their coworkers are female, a third in occupations with 90 percent or more females (Waite, 1981). These occupations differ from men's in more than just their sex composition. Women's occupations tend to have lower levels of physical capital, to be part of shorter or nonexistent career ladders, and to provide less on-the-job training and lower returns to worker skills than do occupations traditionally held by men (Lloyd and Niemi, 1979). The different occupational distribution of women than men, combined with these characteristics of female occupations, could account for some portion of the higher quit rates of women.

One can determine in a straightforward way if this is so by simply comparing rates of turnover of men and women in similar occupations. The extreme sex segregation just referred to makes this difficult. Alternatively, one can compare the effect on turnover rates of job characteristics for men and women, to see whether women respond differently to the same incentives. This is the strategy we follow here.

1. As the nontraditionality of the occupation increases, the probability of turnover increases. Just as women have less information about traditionally male jobs than men do or than women have about traditionally female jobs, the same expectation holds for males and their knowledge about jobs rarely held by men. And men as well as women may find it more difficult to operate in work groups comprised almost exclusively of those different in some easily identifiable and socially important characteristic from themselves (Kanter, 1977). Our only measure of occupational traditionality for males is proportion female in the civilian labor force in the occupation.

2. The greater the mismatch between characteristics of the job and characteristics of the man, the higher the probability of turnover. We expect exactly the same relationships for males as for females, except that none of the branches of the military constitute nontraditonal choices for men. Younger workers, those with less education, those with less general work knowledge, and those in jobs atypical for their gender more often hold erroneous expectations about their job before they take it, and for this reason will show higher rates of turnover, according to our reasoning.

3. The less attractive the current job, the higher the probability of turnover. We include here the same measures of job attractiveness that we used for females: hourly wages, benefits, unionization,

respondent's attitudes toward the job, shift work, travel time to the job, eventual wage payoffs, and mobility opportunities within the firm. Since men usually do not have the alternative to work in the home full time, we include only aspirations for further schooling as a measure of the attractiveness of nonwork alternatives to the current job. This corresponds to Hypothesis 4 for females. Hypothesis 5 has no counterpart for males.

6. *The greater the man's informational, motivational and financial resources, the higher the probability of turnover.* We expect that men with more labor market information and greater willingness to exercise control over events show higher turnover than others. The respondent's family socio-economic status, education, and general knowledge of occupations index informational resources, whereas score on the Rotter (Internal/External Locus of Control) Scale indexes willingness to exercise control over events. The person's assets and family income net of their own earnings may also help them absorb the transaction costs of changing jobs and thereby increase turnover.

7. *The greater the number of labor market alternatives available, the higher the probability of turnover.* The unemployment rate in the local labor market, residence in an SMSA, and the respondent's observable human capital and status characteristics that affect return on that capital index these alternatives.

This analysis of job turnover of young men parallels exactly the analysis for young women discussed above. The constraints on the sample, variable definitions, and estimation techniques all exactly match for the two sexes. The model for males includes all variables included for females, with the single exception of preferences for work at age 35, which the male equation excludes. We reason that full-time work in the home is so rare for adult males, and its social significance so different from that for females, that we could not interpret the effect of preferring this option.

Results

Table 8 shows the means and standard deviations for all the variables in our model for males in the civilian and military sectors. Turnover rates for males over the period 1979–1980 correspond amazingly closely to those for females, as comparison with Table 6 shows. Fifty-seven percent of all young men who were not in school full time in 1979 for whom employment constituted their primary activity had left their employer by 1980. The corresponding figure for women was 55 percent. As we observed for females, the military shows much higher one-year retention rates than do civilian employers, with 22 percent of

Table 8

MEANS AND STANDARD DEVIATIONS FOR VARIABLES, CIVILIAN AND MILITARY SAMPLES, FOR ANALYSIS OF JOB TURNOVER OF YOUNG MEN

Variable	Civilian Sample		Military Sample	
	Mean	Standard Deviation	Mean	Standard Deviation
Turnover	0.569	0.495	0.222	0.416
Job Traditionality				
FEMALE OCC	0.014	0.117	0.092	0.289
MALE OCC	0.670	0.470	0.673	0.470
PERCENT FEMALE	0.218	0.229	0.176	0.277
NAVY	—	—	0.233	0.423
AIR FORCE	—	—	0.224	0.417
MARINES	—	—	0.101	0.302
Job Mismatch				
AGE	19.540	1.398	20.169	1.161
HS DIPLOMA	0.627	0.484	0.770	0.421
EDUCATION	11.295	1.561	11.722	0.923
KNOWLEDGE WORK	6.124	2.124	6.971	1.773
Job Attractiveness				
Job Characteristics				
LOG WAGE	0.867	1.578	1.142	0.254
SHIFT	0.323	0.468	0.401	0.490
TRAVEL TIME	19.717	20.255	9.667	9.837
BENEFITS	1.763	1.167	—	—
UNIONIZED	0.249	0.432	—	—
MEDIAN WAGE	260.787	62.175	—	—
LOG FIRM SIZE	3.262	1.824	—	—
MULTI SITE	0.548	0.500	—	—
LOG TENURE	2.097	1.037	3.111	0.539
TRAINING	—	—	0.820	0.385
OJT	—	—	0.489	0.500
Attitude Toward Job				
DISSATISFIED	0.215	0.411	0.568	0.496
JOB SIGNIFICANCE	3.271	1.251	3.334	1.298
EXTRINSIC REWARDS	0.227	0.686	0.028	0.672
JOB HAZARDS	0.082	0.678	0.304	0.670
WORK GROUP	0.245	0.576	-0.097	0.497
Attractiveness of School and Home Alternatives				
ED ASPIRE	13.711	2.130	15.301	1.893
MOM WORK 14	0.532	0.499	0.546	0.498

Table 8—continued

Variable	Civilian Sample Standard Mean	Civilian Sample Standard Deviation	Military Sample Mean	Military Sample Deviation
Attractiveness of School and Home Alternatives (continued)				
SEXROLE1	0.083	0.986	−0.249	0.920
SEXROLE2	0.076	0.947	−0.003	1.028
MARRIAGE	0.093	0.290	0.077	0.267
BIRTH	0.066	0.249	0.074	0.261
Resources				
Labor Market Information				
MOM'S EDUCATION	10.593	2.991	11.546	2.369
DAD'S EDUCATION	10.370	3.606	11.709	3.230
DAD WHITE COLLAR	0.190	0.393	0.226	0.419
DAD CRAFT	0.220	0.414	0.263	0.441
Locus of Control				
CONTROL	11.467	2.454	11.732	2.531
Financial				
ASSETS	1.290	0.868	1.392	0.630
FAMILY INCOME	580.400	1598.983	570.382	2168.538
Labor Market Alternatives				
SMSA	1.134	1.080	—	—
UNEMPLOY RATE	2.512	0.766	—	—
BLACK	0.218	0.413	0.208	0.406
HISPANIC	0.138	0.345	0.460	0.210
FOREIGN LANGUAGE	0.199	0.399	0.165	0.372
Controls				
SOUTH 14	0.395	0.489	0.473	0.336
URBAN/RURAL 14	1.273	0.553	1.285	0.551
NO MOM	0.072	0.259	0.061	0.239
NO DAD	0.122	0.327	0.129	0.335
FULL TIME	0.891	0.312	—	—
CONTRACT ENDS	—	—	0.224	0.417

NOTE: — = Not available for this sample.

those on active duty in 1979 leaving by 1980. Military turnover rates for women were 21 percent.

Comparison of Tables 6 and 8 shows substantial differences in job characteristics for the two sexes. As we would expect, very few young men in our sample hold jobs in occupations that are predominantly female in the labor force as a whole; the average percent female in the current occupations held by young men is 22 percent for those with

civilian jobs and 18 percent for those in the military. Only 1 percent of young men hold jobs in traditionally female occupations, defined as those with 90 percent or more female in the civilian labor force, and 67 percent have jobs in predominantly male occupations, defined as 25 percent or less female. Sex segregation in the military is extreme for typically male occupations—two-thirds of all men on active duty are in occupations with 10 percent or less female in the civilian counterpart. Much of this results from the large proportion of enlisted male military personnel in combat arms occupations that are closed to women. However, a much higher proportion of men in the military than in civilian jobs have occupations that in the civilian labor force are predominantly female (9 versus 1 percent). We must point out that the evidence of substantial sex segregation that these measures present need not result from our definition of traditionality. If young men were entering occupations randomly, without regard for their sex composition, then average percent female would be around 40 percent, the proportion female in the labor force as a whole.

Men and women in the military distribute themselves somewhat differently across branches of the Service. About half of each are in the Army, but more males than females are in the Navy and Marines, fewer in the Air Force.

The male sample has a substantially lower average educational attainment and proportion with a high school diploma in both the military and civilian sectors than the female sample in the comparable sector. Males also have lower average scores on our measure of knowledge of the world of work than females, when we compare within sectors. For both males and females, military personnel are somewhat older than civilian workers.

Counter to most findings, women in our sample have higher (log) wages than their male counterparts in both sectors, but as we would expect, fewer work a nonday shift, and fewer are unionized. But women receive benefits comparable to those received by men, travel almost as far to work, and work in firms of about the same size, on average. The sexes are similar in their tenure on the job, and in the proportion with formal and on-the-job training. Many of these similarities probably result from the youthfulness of the sample and its exclusion of full-time students during the ages when many young adults are attending high school and college.

Our samples of males and females show more similarities than differences in work attitudes, with enlisted women matching enlisted men more closely on all our measures of these attitudes than they match women in the civilian job market. Those in the military are substantially more dissatisfied with their jobs than civilian workers, see

their jobs as much more hazardous, with fewer extrinsic rewards, and as somewhat more significant. These findings match closely with recent analyses of job satisfaction of youth in the military and in civilian jobs (Blair and Phillips, 1983).

We also draw the reader's attention to the much larger proportion of military personnel than of civilian employees of both sexes who are Hispanic (46 versus 14 percent for males, and 32 versus 13 percent for females).

Table 9 presents logit coefficients for the model of job turnover estimated for men; this table corresponds exactly to Table 7 for women, with the exception that the male model does not include plans for work at age 35. We next discuss results from this table in the same order in which the hypotheses were presented and in which results for females were discussed. Note first that our results provide no support for our hypothesis that turnover is higher for males in sex-atypical jobs. We see no effect of either FEMALE OCC or MALE OCC in the military, no effect of MALE OCC in the civilian sector, and a counterintuitive *negative* effect of sex atypicality on male turnover in civilian jobs. We expected gender nontraditionality to increase turnover, but we find for males in civilian jobs that it reduces job change. The coefficient for FEMALE OCC in the civilian sector means that those relatively few men in occupations in which 90 percent or more of the national labor force is female have rates of turnover that are 47 percentage points lower than those in mixed occupations (the reference category).

This result remains when we replace the two measures of gender typicality, FEMALE OCC and MALE OCC, with a linear measure of percent female in the occupation. In fact, percent female shows stronger, more statistically significant, negative effects on turnover than the indicator of being in a typically female occupation (logit coefficient = $-.2831$, $t = -2.83$). This result implies that moving a man from a civilian occupation with 50 percent female in the national labor force to one with 60 percent women would lower the probability of turnover by slightly less than three percentage points. This result closely replicates our finding for women in the military and is even in the same direction.

We speculate that increasing sex atypicality of the current occupation reduces turnover for men, especially for those at the predominantly female end of the distribution of occupational gender composition, because males in traditionally female occupations such as secretary or nurse may face greatly improved probability of promotion and

Table 9

LOGIT COEFFICIENTS FROM MODELS OF JOB TURNOVER OF YOUNG MEN

Variable	Civilian Sample		Military Sample	
	Logit Coefficient	T Ratio	Logit Coefficient	T Ratio
Job Traditionality				
FEMALE OCC	-0.4757	-2.07	-0.0701	-0.64
MALE OCC	0.0538	1.17	-0.1017	-1.47
NAVY			0.0032	0.04
AIR FORCE			-0.0216	-0.25
MARINES			0.0619	0.64
Job Mismatch				
AGE	-0.0237	-1.33	0.0215	0.66
HS DIPLOMA	-0.0772	-1.14	-0.0187	-0.20
EDUCATION	-0.0486	-2.05	0.0434	0.97
KNOWLEDGE WORK	-0.0022	-0.19	-0.0188	-1.06
Job Attractiveness				
Job Characteristics				
LOG WAGE	-0.0926	-1.70	-0.3649	-2.35
SHIFT	-0.0758	-1.65	0.0940	1.69
TRAVEL TIME	0.0003	0.23	-0.0056	-1.81
BENEFITS	-0.0256	-1.26	—	—
UNIONIZED	0.0248	0.47	—	—
MEDIAN WAGE	-0.0001	-0.24	—	—
LOG FIRM SIZE	0.0013	0.55	—	—
MULTI SITE	-0.0006	-0.61	—	—
LOG TENURE	-0.1379	-6.35	-0.1119	-1.42
TRAINING	—	—	0.0117	0.17
OJT	—	—	0.0673	1.12
Attitude Toward Job				
DISSATISFIED	0.1718	2.90	0.1070	1.69
JOB SIGNIFICANCE	-0.0301	-1.69	-0.0548	-2.41
EXTRINSIC REWARDS	0.0697	1.86	0.0436	0.99
JOB HAZARDS	-0.0393	-1.16	-0.0251	-0.57
WORK GROUP	-0.0513	-1.23	-0.0884	-1.72
Attractiveness of School and Home Alternatives				
ED ASPIRE	0.0324	2.80	0.0031	0.20
MOM WORK 14	0.0694	1.62	-0.0207	-0.37
WORK 35	—	—	—	—
SEXROLE1	0.0179	0.82	-0.0343	-1.10
SEXROLE2	-0.0431	-1.94	-0.0275	0.98
MARRIAGE	-0.0870	-1.22	-0.1267	-1.12
BIRTH	-0.0668	-0.84	0.1983	1.97

Table 9—continued

Variable	Civilian Sample		Military Sample	
	Logit Coefficient	T Ratio	Logit Coefficient	T Ratio
Resources				
Labor Market Information				
MOM'S EDUCATION	-0.0102	-1.10	0.0247	1.78
DAD'S EDUCATION	0.0027	0.36	-0.0028	-0.24
DAD WHITE COLLAR	0.0896	1.46	-0.0420	-0.49
DAD CRAFT	0.0155	0.28	-0.1035	-1.40
Locus of Control				
CONTROL	0.0107	1.25	0.0103	0.89
Financial				
ASSETS	-0.0575	-1.94	-0.0554	-1.18
FAMILY INCOME	-0.0000	-1.90	0.0000	0.27
Labor Market Alternatives				
SMSA	0.0101	0.46	—	—
UNEMPLOY RATE	-0.0059	-0.21	—	—
BLACK	-0.0477	-0.77	0.0316	0.40
HISPANIC	0.0825	0.91	0.0928	0.66
FOREIGN LANGUAGE	-0.1015	-1.38	0.0510	0.68
Controls				
SOUTH 14	0.0025	0.05	0.0128	0.21
URBAN/RURAL 14	0.0126	0.32	-0.0247	-0.47
FULL TIME	-0.1160	-1.56	—	—
CONTRACT ENDS	—	—	0.8373	10.00
N	832		544	

NOTE: — = not available for this sample.

advancement as a direct result of their uniqueness and higher status than their coworkers. There is only anecdotal evidence on this point (Kanter, 1977), and we are unable to test it here.

Table 9 presents partial evidence in support of our hypothesis that mismatch increases turnover for males; education significantly reduces turnover, and the effect of age, while it does not reach significance, has the predicted sign. Neither knowledge of work nor work in a sex-typical occupation decreases job leaving, and none of our measures of potential job mismatch has any impact for men in the military.

The results in Table 9 do support our third hypothesis, that turnover decreases with job attractiveness. A higher hourly wage, a convenient shift, and firm-specific skills as reflected by tenure on the job

all reduce job leaving for males in the civilian sector. High wages and a short commute—which probably reflects residence on base—reduce attrition from the military. Benefit levels, which decrease women's turnover, had no measurable effect for men, nor did unionization or the median wage in the occupation in the nation as a whole. We have no explanation for the lack of effect of these measures of job attractiveness for men. Our analysis of women showed that those in the military who had received substantial formal training for their occupation were less likely to leave than those without this training, although additional training on the job did not further increase retention. For males, neither type of training affects leaving the military, once we take into account other factors.

Our other set of indicators of the attractiveness of the job to the individual measures his attitudes toward its various aspects. These include the extent to which the young man is satisfied with his job or with his current enlistment (DISSATISFIED), how significant he thinks the work is (JOB SIGNIFICANCE), his satisfaction with the extrinsic rewards of the job, such as pay and promotion chances (EXTRINSIC REWARDS), the extent to which he regards the work as dangerous (JOB HAZARDS), and his evaluation of his coworkers and supervisor (WORK GROUP). All these variables behave as we hypothesized; the more attractive the job the less likely the person is to leave it during the year. Not all the coefficients reach statistical significance, however. In the civilian sector, dissatisfaction, job significance, and extrinsic rewards all significantly affect turnover in the expected direction; we find the same strong effects of satisfaction and job significance in the military and a sizable negative effect of liking the work group, but no effect of extrinsic rewards.

Young men in the military rate their jobs as substantially more hazardous (.30 versus .08), less extrinsically rewarding (.03 versus .23), and with a less appealing work group (.10 versus .25) than do those with civilian employers. But only one of these aspects of their evaluation of their job—the work group—affects their choice to stay or leave the military. We speculate that enlisted men see a *potential* danger in their jobs should they ever go into combat. But the hazards faced by those in the civilian sector may be more a part of day-to-day work and therefore more salient. Extrinsic rewards may be less important to military personnel than the their civilian counterparts because fewer of them see the Services as a career; thus the lower evaluation of pay, promotion chances, and other rewards pales in comparison to the training opportunities and veterans' benefits that the military offers. In addition, the enlistment contract signed by young men and women

entering any branch of the military makes acting on job preferences more difficult than it is for those with a civilian employer.

Next we examine the impact of attractive alternatives to the current employment facing young men. We consider a subset of those factors we examined for women because few men have the socially acceptable option of full-time work in the home. As for women, the higher the aspirations of the young man for schooling, after taking current educational attainment into account, the more likely he is to leave his job, presumably to return to school. This effect appears quite strongly in our civilian sample but does not exist at all for military personnel. Perhaps in the civilian labor force individuals with aspirations for further schooling choose jobs of shorter duration or higher probability of layoff than do those with plans to work over the long term; if so, this would explain our results only to the extent that these individuals did not immediately find other jobs but remained out of work through the next survey period, or if they left their jobs to return to school.

One reason that young men and women enter the military is for educational opportunities; the military has long provided training while in the Service and veterans' educational benefit later, which provide an avenue for upward mobility to those with high aspirations but few family resources with which to purchase them. Our sample of active-duty military personnel shows this pattern clearly. Tables 6 and 8 show that both males and females in the military hold much higher aspirations for their eventual educational attainment than do those in civilian jobs. Young men in the military want 15.3 years of schooling, on average, compared to 13.7 years desired by males in civilian employment. The differences for young women, 15.5 and 14.0, are just as striking. Since our analysis includes only those young adults who are not in school full time, we can see that the Services attract youth not headed directly for college but with aspirations for substantial education past high school. Thus, high educational aspirations do not cause young people to leave the military precisely because they were one reason that these individuals enlisted in the first place.

Our model of job turnover also includes indicators of two important family transitions—marriage and the birth of a child—primarily because we hypothesize that they increase the attractiveness of full-time work in the home *for women*. We do not expect these events to result in job changes for men, since both increase their need for earnings and should thereby decrease the chances that they leave their employer. Our results show no effect of marriage or a birth during the year for civilian males, or for marriage for enlisted men. But a birth significantly increases the chances that the new father will leave the military. We have no ready explanation for this finding; although most

branches of the Service allow a woman to break her enlistment contract if she becomes pregnant, this policy does not apply to men. New fathers may feel that they need to earn more than they are able to in the Service, but the generous medical, housing, and food benefits enlisted personnel and their dependents receive may become more important for couples with a new baby.

Next, we test our hypothesis that those with more informational, motivational, and financial resources change jobs more frequently. None of our measures of these resources had the impact we expected on women's job leaving behavior. We find the same for men in the civilian sector. Parent's education, father's occupation, and locus of control all fail to affect turnover, whereas financial resources—measured by assets and family income net of own wages—significantly decrease job leaving. Perhaps the wife's earnings, the primary component of other family income, tie the young man to the local area through her connections there and makes it more difficult for him to move to a new job. In addition, a wife with relatively high earnings and greater family assets may reduce the pressure on young men to change jobs to maximize income. Neither measure has any effect on attrition from the military.

Finally, as we found for women, characteristics of the local labor market do not influence employer changes for men. These include the unemployment rate in the labor market and residence in an SMSA. We also include several measures that reflect the individual's mainstream presentation of self, and may affect the returns that he gets from his personal characteristics. Being black or Hispanic, or growing up in a home in which a foreign language was spoken, may signal to employers a member of a minority group. None of these affects turnover in either the military or civilian jobs, indicating either that employers do not behave differently toward their minority employees, that the job attractiveness and perceived alternatives do not differ for those so identified, or that differential behavior by employer or minority employee occurs in the process of entering the job, not in leaving once one has entered.

Our finding of no effect of being black on military attrition does not match our results for women. Black women leave the military substantially less often than either Hispanic or white women, once one takes into account all the other factors in our model. Several processes could produce this result. First, women in general must meet higher standards for military enlistment—94 percent of women compared to 77 percent of men in the Services have a high school diploma. Women must also receive higher scores on the aptitude and achievement tests administered by the military to be eligible for enlistment. These

restrictions, combined with the ineligibility of single parents for military enlistment, probably mean that young black women in the military comprise the cream of the crop to a much greater extent than do white women. The barriers to employment and advancement within the military for this select group of young women are, we reason, substantially lower than they would face in the civilian labor market. Young black men in the military are less selected, because of the lower standards for male enlistment, than are women.

SUMMARY AND CONCLUSIONS

Summary. We find little support for the hypothesis that being in a job traditional for one's sex affects turnover, net of the effect of the individual's demographic and social characteristics and other dimensions of her job. The military constitutes a mild exception; among women on active duty in the armed forces we found a weak negative effect of job traditionality of turnover over a one-year period such that women in traditionally female jobs were slightly less likely to leave the military over the one-year period we examine. Our analyses of various alternative measures of proportion female in the occupation suggest that the negative impact of occupational typicality on women's job turnover, to the extent that it exists, occurs mostly within occupations mixed by gender in the national labor force. These mixed occupations have more than 25 percent and less than 90 percent females. Women in the various branches of the Services show the same turnover probabilities.

For males, we find that those civilian jobs in occupations with very high proportions female have *lower* turnover rates than those in mixed or sex-typical occupations. Traditionally female jobs in this category include secretaries, nurses, elementary school teachers, bank tellers, bookkeepers, and receptionists. We speculate that the relatively few men in these stereotypically female occupations face substantially improved promotion and job opportunities because of their uniqueness and higher status than their coworkers. Men in the military show no effects of proportion female in the civilian counterpart occupations on their chances of leaving the military within the year.

Our hypothesis that mismatch between the characteristics of the individual and the demands of the job receives general support for both sexes; we find that age and education both decrease the chances of turnover in at least one of the two sectors we study. Our findings show no significant effect of knowledge of the world of work and no effect of

work group composition, measured only for women in the civilian sector, on likelihood of turnover.

The findings provide general support for our hypothesis that job attractiveness decreases turnover; those in jobs with more benefits, higher long-run wage prospects, union representation, lower perceived hazards, short travel time to work, and higher perceived extrinsic rewards leave their employers at lower rates that those in jobs without these features, although not all these effects reach statistical significance. We find that for civilian workers chances of turnover decrease dramatically with increasing tenure with that employer. Job tenure reflects satisfaction with the job to that point and also the firm-specific knowledge and skills the worker has acquired.

Two competing activities, schooling and full-time work in the home, increase turnover for women the more attractive these alternatives. Men in civilian—but not military—jobs who have fairly high educational aspirations are also significantly more likely to leave their employer than others, presumably to return to school. We found only modest support for our hypothesis that the person's resources allowed her or him to leave an undesirable job; no main effects of our measures of resources appeared. However, we found that for women dissatisfied with their job, the chances of turnover increased with family income net of the woman's wages. Finally, our results show much lower rates of turnover among black women in the military than among whites or Hispanics, and no effect of race or ethnicity among women civilian employees or among males in either sector. We reason that young black women who chose the Services and succeed in enlisting comprise a highly selected group for whom the military offers training and education advantages it does not offer others.

We must point out again that the nature of the data used in this analysis restrict the generalizability of our findings. We focus here on the early stages of the process through which young adults enter careers; our analysis cannot address issues of career choice or advancement for those older than their early twenties. Our decision to include only postschool occupational choices allows us to focus on job decisions with substantial long-run implications, but means that our results apply primarily to young adults who do not go straight from high school to college for four years. Thus, our sample allows us to discuss the job turnover of young adults with less than a college degree.

Our focus on the occupational choice and retention decisions of young adults is appropriate for several reasons. First, entry into a first occupation after school influences later career achievements (Ornstein, 1976). Second, more job switching takes place early in careers, when individuals are trying to match their skills and interests with those of

an occupation, than later when people have acquired substantial occupation-specific capital. Thus, we focus on a period of occupational turbulence during which important career decisions are taking place.

Conclusions. At the beginning of this report, we outlined a theoretical framework with which to understand young women's decisions about their occupations. We fit job turnover into this framework as part of the continual choice and re-choice process which accompanies decisions to remain in a job or change to a new one. This report focuses on the extent to which women chose and remain in occupations in which varying proportions of their coworkers are female, a concept to which we refer as "occupational traditionality."

Our analyses have three particularly important policy implications. First, the military Services, which historically confer important economic and political benefits on the less enfranchised groups that serve in them, have expressed concern about high turnover rates of women enlistees. Our analysis explicitly compares male and female enlistees. It also compares turnover for women in the military and in civilian jobs. We find that women enlistees have much lower exit rates from the armed forces than their counterparts in civilian jobs. In a year's time, more than one out of every two women exited from civilian jobs. For the same time period, one out of every five members of the military exited, most of them at the conclusion of their first term contract. These same patterns obtain for male workers in the military and civilian sectors. (Those whose contracts ended between the 1979 and 1980 interviews were 78 to 83 percentage points more likely to exit than those whose contracts ended after the 1980 interview.) Clearly, the military's selection, training, service contract, and other human resource policies are fairly successful in controlling turnover of women in this age group.

Second, we find no effect of job traditionality on turnover for women in civilian jobs—for a variety of definitions of the traditionality variable and for several alternative specifications of the civilian turnover model. This finding has major implications for the gender desegregation of occupations in the civilian sector, especially in industries whose occupational structures have high proportions of traditionally male occupations. For women to penetrate such industries in any significant way, they have to be pervasively employed in traditionally male occupations. Our results do not support the exclusion of women from traditionally male occupations on grounds of turnover rates greater than those observed for women in traditionally female occupations. We must note, however, that the characteristics and experiences of women who enter jobs currently held predominantly by men may change in the future if more women enter these occupations.

Third, for women in the military we find no effect of being in a traditionally female occupation or a traditionally male occupation on turnover, but do find a weakly significant effect of a linear measure of percent female in the civilian counterpart occupation. Our analysis considered various alternative measures of proportion female in detailed occupational categories. The results from this analysis suggest that occupational typicality has little effect on women's job turnover, except perhaps a small effect within the category of occupations mixed by gender in the national labor force—those with more than 25 percent and less than 90 percent females. Within these mixed occupations, we find that an occupational traditionality decreases chances of job turnover slightly.

In thinking about women's turnover rates, it is important to remember that both Viscusi (1980) and Blau and Kahn (1981) find that while women in civilian jobs have higher aggregate quit rates than men, they have *lower* quit rates if they are given the same job and personal characteristics as men. It should also be remembered that Osterman (1982) finds that the federal enforcement of affirmative action in industries reduces women's quit rates. In other words, policies that begin to equalize work conditions for men and women also begin to equalize their aggregate quit rates.

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